# Revised 2011 Annual Groundwater Monitoring Report Taylor Lumber and Treating Superfund Site Sheridan, Oregon

Prepared for: Oregon Department of Environmental Quality

September 14, 2011 1843-00/Task 3



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# 1.0 Introduction

This Groundwater Monitoring Report describes the results of annual groundwater monitoring activities at and in the vicinity of the Taylor Lumber and Treating (TLT) Superfund Site located at 22125 SW Rock Creek Road in Yamhill County, Sheridan, Oregon (Site; Figure 1). This report was prepared for the Oregon Department of Environmental Quality (DEQ) under Task 3 of Task Order No. 57-08-28. The monitoring activities described in this report were conducted in general accordance with the Groundwater Monitoring Work Plan submitted to DEQ on April 22, 2011 (Work Plan; Ash Creek Associates, Inc. [Ash Creek], 2011). The Work Plan was technically based on the *Long-term Groundwater Monitoring and Reporting Plan - Taylor Lumber and Treating Superfund Site* prepared by the United States Environmental Protection Agency (EPA) in March 2010 (LGMP; EPA, 2010). The Work Plan was prepared to be fully inclusive of the LGMP; therefore, there are no significant changes to note between the LGMP and the Work Plan.

### 1.1 Background

The Site is a wood treating facility that was operated by TLT from 1946 until 2001, when TLT filed for bankruptcy. Pacific Wood Preserving of Oregon (PWPO) entered into a Prospective Purchaser Agreement (PPA) with the U.S. Environmental Protection Agency (EPA) and purchased the wood treatment portion of the facility. An Amendment to Agreement and Covenant Not to Sue between EPA and PWPO was finalized on May 26, 2011, and an Amended PPA between DEQ and PWPO was finalized on June 7, 2011. PWPO began operations at the Site in 2002, treating wood using copper- and borate- based solutions. Beginning June 7, 2011, PWPO began using a pentachlorophenol solution to treat wood.

A Record of Decision (ROD) for the Site was signed on September 30, 2005 (EPA, 2005). In accordance with the ROD, contaminated soils have been removed from the Site. However, contaminated soils and groundwater remain within the treatment plant area at the Site, enclosed by a soil-bentonite barrier wall. A low-permeability asphalt cap has been placed over the entire area enclosed by the barrier wall, which impedes the infiltration of stormwater into the groundwater located within the barrier wall. Four groundwater extraction wells have been installed within the barrier wall to stimulate an inward hydraulic gradient and prevent water from rising above the cap (EPA, 2010). The ROD identifies pentachlorophenol (PCP) as the contaminant of concern (COC) in Site groundwater (EPA, 2005).

### 1.2 Scope of Work

The scope of work was completed in general accordance with the Work Plan (Ash Creek, 2011). The following activities comprise the scope of work as summarized in the Work Plan:

- For health and safety purposes, measure organic vapors in the well headspace prior to monitoring and sampling activities.
- 2) Observe and note well conditions in the project field notes (Appendix A).

- 3) Measure water levels in Site monitoring wells as well as in extraction wells PW-01 through PW-04, located within the barrier wall.
- 4) Measure water quality parameters prior to sampling to determine water stability during purging and to qualify the representativeness of the samples.
- 5) Collect groundwater samples for PCP analysis from 19 monitoring wells located outside the barrier wall.
- Collect groundwater samples for PCP analysis from residential wells RW-01 and RW-02.

These activities are discussed in detail within this report as well as any deviations from the Work Plan.

# 2.0 Summary of Field Events

A field representative from Ash Creek conducted the 2011 annual groundwater monitoring event at the Site from April 25 through April 27, 2011. Work was conducted in general accordance with the Sampling and Analysis Plan (SAP) in Appendix B of the Work Plan (Ash Creek, 2011). The Work Plan is provided as Appendix B of this report. As described in Section 1.2, field activities included well headspace monitoring and documentation of well conditions, measurement of depth to water from extraction and monitoring wells, and collection of groundwater samples from monitoring wells and one residential well. Table 1 lists the groundwater monitoring wells and residential wells that were gauged and sampled as part of the Site monitoring program. Any deviations from the Work Plan are discussed in Section 2.5 of this report. The location of the monitoring, extraction, and residential wells included in the monitoring program are shown on Figure 2.

### 2.1 Well Inspection and Headspace Screening

Prior to sampling, site conditions were recorded including temperature, precipitation, wind direction, and any other factors that could affect sample quality. The well monuments were inspected for signs of damage, and were noted accordingly in the field notes (Appendix A). In general the wells were in good condition, with the exception of missing bolts on some of the flush monument well covers (see notes in Appendix A). The well locks were replaced in each of the wells with well locks keyed to a common key. The well lids were opened and the headspace around each well was screened for organic vapors using a photoionization detector (PID). Headspace concentrations measurements were documented in the field notes provided in Appendix A. PID concentrations were consistently below 1 part per million (ppm; PID calibrated to 100 ppm isopropylbenzene) indicating that breathing space conditions were safe for the field representative.

#### 2.2 Groundwater Elevation Measurements

On April 25, 2011 groundwater elevation measurements were collected from 21 wells in accordance with the Work Plan (Ash Creek, 2011). The well lids and caps were opened a minimum of 5 minutes prior to collecting measurements so that the air pressure in the well had time to equilibrate with the ambient air pressure. Depth to groundwater measurements were conducted with an electronic water level probe in accordance with the SAP (see Appendix B of Appendix B). Depth-to-water measurements and groundwater elevation data are provided in Table 2. A groundwater potentiometric map for the Site and vicinity is provided on Figure 3.

#### 2.3 Groundwater Sampling

Groundwater samples from 19 wells were sampled for pentachlorophenol during the 2011 annual monitoring event. Groundwater was purged in each well before sampling using dedicated Teflon tubing and a peristaltic pump. Field parameters, including temperature, pH, dissolved oxygen, oxidation-reduction potential, specific conductivity, and turbidity were collected during the purging process using a flow-through cell. Detailed groundwater sampling procedures are described in the SAP (see Appendix B of Appendix B). Field parameter measurements are documented in the field notes in Appendix A. After purging, groundwater samples were collected in accordance with the Work Plan (Ash Creek, 2011).

### 2.4 Handling of Investigation-Derived Waste

Investigation-derived waste (IDW) consisted of purge water and decontamination water. IDW generated during the monitoring event was placed in covered buckets and was transported to and disposed of in the drain located to the north of the stormwater treatment system (Figure 2). Disposable items, such as gloves, paper towels, etc., were disposed of as municipal waste.

#### 2.5 Deviations from Work Plan

- The owners of residential well RW-02 could not be contacted prior to the monitoring event. The field representative from Ash Creek met the property owner at the residence during the monitoring event and was notified that the pump for the residential well had not been operable for several years. According to the resident, the well water had historically been used for washing cars and had never been used for drinking water. The property owner stated that the residence used a municipal water supply for drinking water. Therefore, RW-02 was not sampled.
- Monitoring well MW-12S is constructed of 6-inch-diameter PVC casing. In order to purge a minimum of three well volumes using the maximum peristaltic pump flow rate, the field staff determined it would take approximately 4.5 hours to purge the well prior to sampling. In order to collect a groundwater sample representative of the aquifer in an efficient timeframe, field parameters were measured every 5 minutes while purging the well. Once pH and temperature

- conditions reached values similar to results for the other wells at the Site, and the other field parameters stabilized (dissolved oxygen, turbidity, etc.) the well was considered adequately purged and ready for sampling. The total purge volume for MW-12S was approximately 0.3 well volumes.
- Water levels could not be measured in extraction well PW-03 because the extraction pump rigid tubing was covering the portal for inserting the water level tape. The well cap and tubing configuration could not be safely moved without potentially damaging the extraction pump setup. The PWPO operations manager will be contacted prior to the 2012 monitoring event to see if the extraction pump configuration could be adjusted to allow water level tape access.

# 3.0 Monitoring Results

#### 3.1 Groundwater Elevation Results

A groundwater elevation contour map is provided on Figure 3. Groundwater flow at the site is from the northwest to southeast towards the South Yamhill River and is consistent with historical documentation of groundwater flow direction (CMH2MHill, 2003). The groundwater contour map in Figure 3 depicts a depression in the groundwater flow path that coincides with the perimeter or the barrier wall. Within the barrier wall, groundwater elevations are between 5 to 10 feet lower than the surrounding area as groundwater is being actively extracted from within the barrier wall. Within the barrier wall, the groundwater flow direction is not consistent with regional flow, and suggests that groundwater extraction from within the barrier wall has successfully produced a localized inward gradient.

### 3.2 Groundwater Analytical Results

The groundwater samples were submitted to ESC Lab Sciences (ESC) in Mt. Juliet, Tennessee for laboratory analysis of PCP by EPA Method 8270 (PCP only). ESC is certified to analyze PCP in water samples in the state of Oregon. A copy of the Oregon laboratory certification and analytical reports are included in Appendix C, along with a quality assurance/quality control (QA/QC) review of the data. The results of the data quality review indicate that the data are of acceptable quality and are suitable for their intended purpose. The April 2011 groundwater analytical results as well as historical analytical results are presented in Table 3.

# 4.0 Data Evaluation and Conclusions

Concentration trends (from February 2002 through May 2011) for PCP in groundwater from wells MW-1S, MW-1S, MW-15S, MW-16S, PZ-105, and MW-103S are provided in Appendix D. These wells were selected to evaluate long-term concentration trends in Site perimeter and off-site wells and to confirm that PCP in groundwater has not migrated south to the South Yamhill River or to the east under Rock Creek

Road. The trend plots for wells MW-15S, MW-16, MW-103S, and PZ-105, all located to the south of the Site, were either stable or decreasing. PCP concentrations in groundwater in wells located to the south of Highway 18B (MW-20s, MW10S, MW-24S and MW-9S) were non-detect during the April 2011 monitoring event. The data confirm that migration to the south towards the South Yamhill River is not occurring.

Trend plots for wells MW-1S andMW-11S were used to confirm that PCP in groundwater was not migrating beyond the Site barrier wall and to the east under Rock Creek Road. Concentrations in MW-1S have decreased from 14  $\mu$ g/L to non-detect between November 2002 and April 2011. While concentrations of PCP in well MW-11s have been variable with concentrations slightly over reporting limits, there have been no significant increases in PCP concentrations in the well that would indicate that eastern migration is occurring.

Concentrations of PCP have been non-detect in water wells RW-01 and RW-02 since wells were initially sampled in 1999. As discussed in Section 2.5, according to the residential property owner, the well pump at RW-02 has been out of operation for several years. The residents indicated that the well had not been used for drinking water purposes, and only for occasional car washing. The residence is now connected to the municipal water supply. It is anticipated that the water well pump will not be repaired and that well RW-02 will remain out of operation. It is unlikely that the RW-02 well pump will be operable for sampling during the next annual monitoring event in April 2012.

# 5.0 References

- Ash Creek Associates, 2011. *Groundwater Monitoring Work Plan* Former Taylor Lumber Site, Sheridan, Oregon. April 22, 2011.
- CH2MHill, 2003. Remedial Investigation Report Taylor Lumber and Treating Superfund Site Sheridan, Oregon Volume I. October, 2003.
- U.S. Environmental Protection Agency (EPA), 2005. *Final Record of Decision Taylor Lumber and Treating Superfund Site, Sheridan, Oregon.* September 30, 2005.
- EPA, 2010. Long-term Groundwater Monitoring and Reporting Plan. Taylor Lumber and Treating Superfund Site. March, 2010.

Table 1
Groundwater Monitoring Program
Taylor Lumber and Treating

Well I.D.	Wells to be Sampled	Water Level Measurments*
Outside Barrier Wall		
MW-1S	Χ	Χ
MW-6S	Χ	Χ
MW-6D	Χ	Χ
MW-12S	Χ	Χ
MW-13S	Χ	Χ
MW-15S	Χ	Χ
MW-16S	Χ	Χ
MW-19S	Χ	Χ
MW-20S	Χ	Χ
MW-25S	Χ	Χ
MW-103S	Χ	Χ
PZ-101	Χ	Χ
PZ-102	Χ	Χ
PZ-105	Χ	Χ
South of Highway 18B		
MW-9S	Χ	Х
MW-10S	Χ	Χ
MW-24S	Χ	Χ
East of Rock Creek Road		
MW-11S	Χ	Χ
Residences**		
RW-01	Χ	
RW-02	Χ	
Extraction Wells Inside Bari	rier Wall	
PW-1		X
PW-02		Χ
PW-03		Χ
PW-04		Χ

- 1. \* = Indicates wells in which water level measurements will be collected.
- 2. \*\* = Residential addresses and contact information are as follows:

RW- 01: 31100 West Valley Highway - Residential property owned by Bob Bowman - 503-843-2530

RW-02: 1523 W. Main Street - Steven and Melinda Burk - 971-241-0831

MW-9S: Residential property owned by Robert and Patricia Harris - 503-472-8017

MW-11S: Northwest Gazebo - George Gabriel owner - 503-843-0024

**Notes**: See footnotes in Tables 2 and 3 for any deviations from the monitoring plan.

The EPA Long Term Groundwater Monitoring and Reporting Plan (EPA, 2010) depicted Well MW-9S as both "Outside the Barrier Wall" and "South of Highway 18B". The tables in this report have been revised to denote well MW-9S as "South of Highway 18B" only.

Table 2 Groundwater Elevation Results Taylor Lumber and Treating

			Groundwater
Well Number/ (TOC Elevation)	Date of Measurement	Depth to Water (feet BTOC)	Elevation (feet)
Outside Barrier Wall		<u> </u>	(
MW-1S (207.41)	4/25/2011	3.11	204.3
MW-6S (204.39)	4/25/2011	2.72	201.67
MW-6D (204.04)	4/25/2011	2.35	201.69
MW-12S (204.49)	4/25/2011	2.80	201.69
MW-13S (204.92)	4/25/2011	3.15	201.77
MW-15S (204.68)	4/25/2011	2.92	201.76
MW-16S (205.19)	4/25/2011	2.95	202.24
MW-19S (210.44)	4/25/2011	4.71	205.73
MW-20S (208.87)	4/25/2011	5.51	203.36
MW-25S (208.74)	4/25/2011	5.87	202.87
MW-103S (207.62)	4/25/2011	3.68	203.94
PZ-101 (208.48)	4/25/2011	3.61	204.87
PZ-102 (204.02)	4/25/2011	3.54	200.48
South of Highway 18B	•		
PZ-105 (205.94)	4/25/2011	3.45	202.49
MW-9S (204.04)	4/25/2011	6.72	197.32
MW-10S (203.17)	4/25/2011	9.55	193.62
MW-24S (205.49)	4/25/2011	13.59	191.9
MW-11S (207.27)	4/25/2011	2.59	204.68
Extraction Wells Inside Ba	arrier Wall		
PW-1 (203.93)	4/25/2011	6.55	197.38
PW-02 (204.96)	4/25/2011	8.92	196.04
PW-03 (206.3)	4/25/2011	Water Level Po	ort Obstructed *
PW-04 (206.98)	4/25/2011	11.98	195.00

 $<sup>\</sup>mbox{\ensuremath{^{\star}}}\xspace$  = The water level tape portal was obstructed during the monitoring event.

Table 3 Groundwater Analytical Results Taylor Lumber and Treating

	ı	I
Well ID	Date of Measurement	Pentachlorophenol (µg/L)
Outside Barrier W	/all	
MW-1S	5/1/1999*	
	Feb-02	<25
	May-02	6.9
	Aug-02	14
	Nov-02	14
	Feb-03	6 J
	May-03	3.3
	4/25/2011	< 0.33
MW-6S	May-99	<25
	Feb-02	0.82
	May-02	0.88
	Aug-02	1
	Nov-02	0.88 J
	Feb-03	
	May-03	
	4/25/2011	<0.33
	4/25/2011 DUP	<0.33
MW-6D	4/25/2011	<0.33
MW-12S	May-99	
	Feb-02	0.32
	May-02	0.3
	Aug-02	0.45
	Nov-02	0.22 J
	Feb-03	
	May-03	 <0.33
1 MAY 400	4/25/2011	
MW-13S	May-99	
	Feb-02	0.25
	May-02	0.25 2
	Aug-02 Nov-02	2.6 J
	Feb-03	<0.32
	May-03	< 0.56
	4/25/2011	<0.33
MW-15S	May-99	
IVIVV-133	Feb-02	220
	May-02	220
	Aug-02	250
	Nov-02	210
	Feb-03	130
	May-03	190
	4/25/2011	12
		.=

Please refer to notes at end of table.

Table 3 Groundwater Analytical Results Taylor Lumber and Treating

Well ID	Date of Measurement	Pentachlorophenol (µg/L)
MW-16S	May-99	
	Feb-02	10.0
	May-02	15.0
	Aug-02	28.0
	Nov-02	21 J
	Feb-03	11.0
	May-03	11.0
	4/25/2011	11.0
	4/25/2011 DUP	11.0
MW-19S	May-99	
	Feb-02	
	May-02	
	Aug-02	0.067
	Nov-02	<0.32
	Feb-03	<0.32
	May-03	0.061
	4/25/2011	<0.33
MW-20S	May-99	
	Feb-02	
	May-02	
	Aug-02	0.013 J
	Nov-02	<0.32
	Feb-03	<0.32
	May-03 4/25/2011	0.027 J <0.33
MM/ OFC		
MW-25S	12/19/2005 12/19/2005 DUP	424 396
	4/25/2011	230
MW-103S		5.6
IVIVV-1033	May-99 Feb-02	6.4
	May-02	7
	Aug-02	12
	Nov-02	4.7 J
	Feb-03	5
	May-03	20
	4/25/2011	1.6
PZ-101	May-99	<25
	Feb-02	0.14
	May-02	0.15
	Aug-02	0.14
	Nov-02	1.1 J
	Feb-03	
	May-03	0.067
	4/25/2011	<0.33
PZ-102	May-99	<25
	Feb-02	0.37
	May-02	0.3
	Aug-02	0.34
	Nov-02	0.13 J
	Feb-03	0.23 J
ī	May-03	< 0.32
	4/25/2011	<0.33

Please refer to notes at end of table.

Table 3 Groundwater Analytical Results Taylor Lumber and Treating

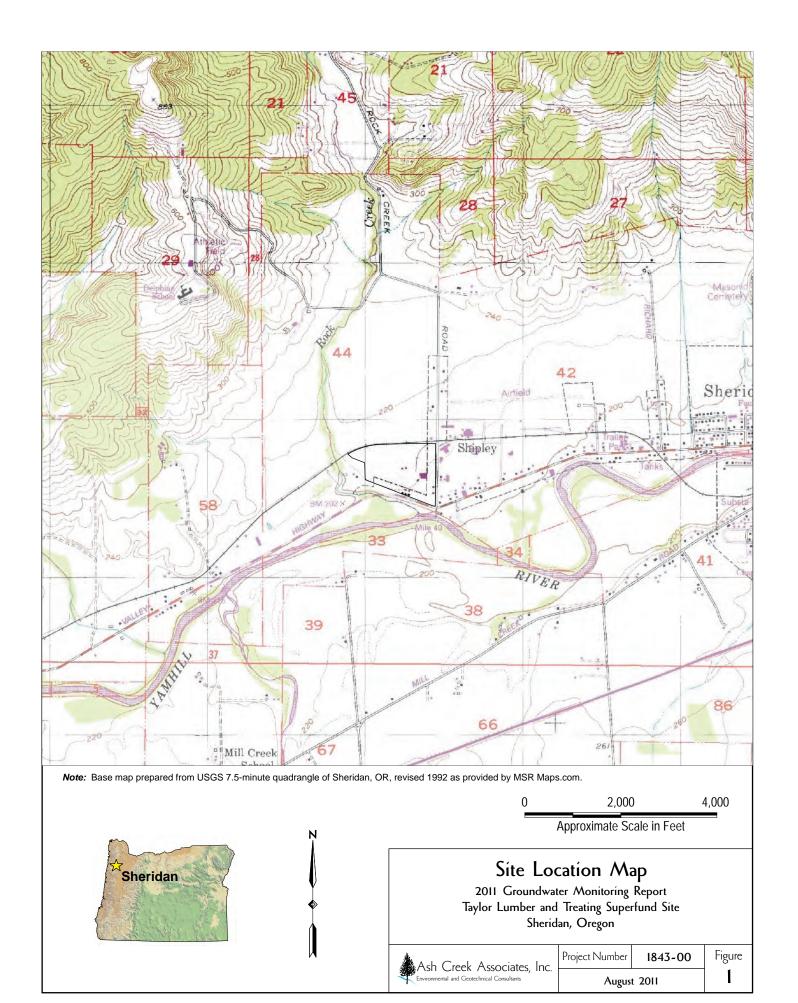
Well ID	Date of Measurement	Pentachlorophenol (µg/L)
PZ-105	May-99	82 J
	Feb-02	3.5
	May-02	8.2
	Aug-02	17
	Nov-02	4.0 J
	Feb-03	0.77
	May-03	2.6
	4/25/2011	< 0.33
South of Highway	18B	
MW-9S	May-99	<24
	Feb-02	< 0.047
	May-02	<0.049
	Aug-02	<0.023
	Nov-02	< 0.32
	Feb-03	< 0.32
	May-03	<0.046
	4/25/2011	< 0.33
MW-10S	May-99	<26
	Feb-02	0.099
	May-02	0.13
	Aug-02	0.38
	Nov-02	0.18 J
	Feb-03	<0.32
	May-03	0.13
	4/25/2011	<0.33
MW-24S	4/25/2011	<0.33
East of Rock Cree		
MW-11S	May-99	<25
	Feb-02	0.18
	May-02	0.18
	Aug-02	0.36
	Nov-02	<0.32
	Feb-03	<0.32
	May-03	0.18
	4/25/2011	0.87 J
Residences	14 00	T or
RW-01	May-99	<25
	Feb-02	<0.045
	May-02	<0.049
	Aug-02	<0.046
	Nov-02	<0.32
	Feb-03	<0.045
	May-03	<0.046
	4/25/2011	<0.33

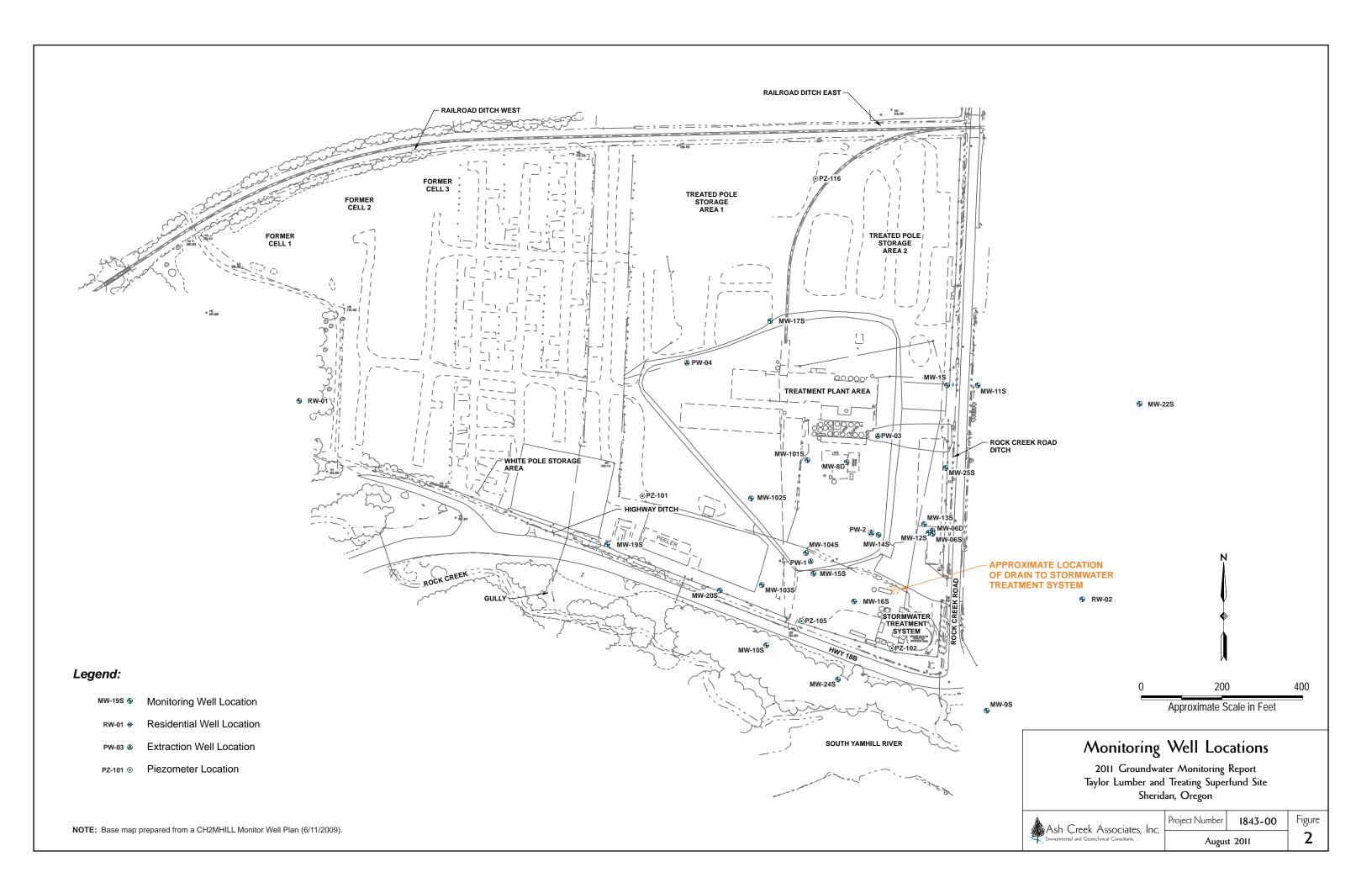
Please refer to notes at end of table.

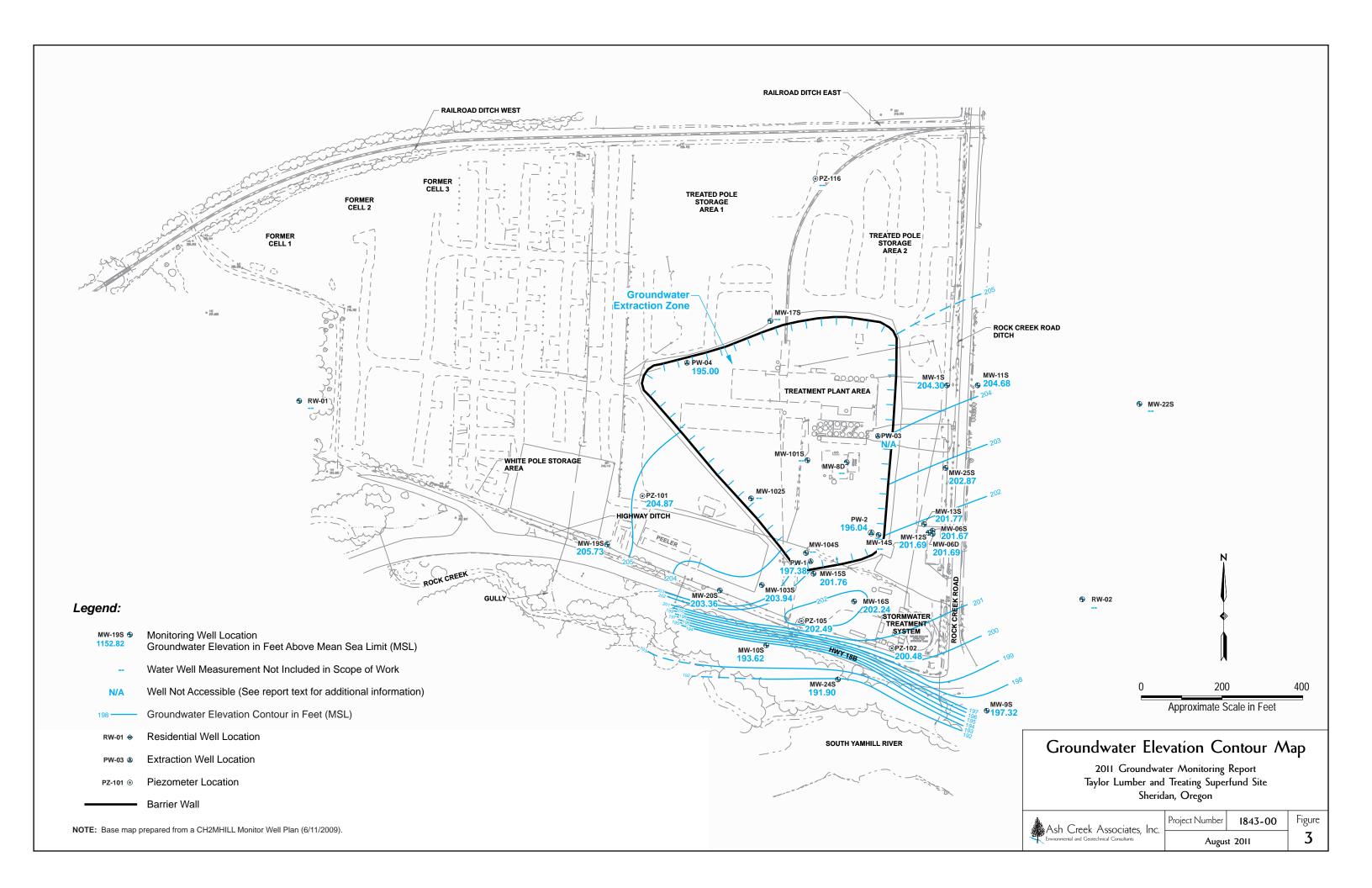
Table 3 Groundwater Analytical Results Taylor Lumber and Treating

Well ID	Date of Measurement	Pentachlorophenol (µg/L)
RW-02	May-99	
	Feb-02	< 0.045
	May-02	0.026 J
	Aug-02	0.046 J
	Nov-02	< 0.32
	Feb-03	
	May-03	0.026 J
	4/25/2011	

- 1. Sample dates for historical (pre-2005) data are not available; results available in month/year format only.
- 2. J = Detected value was below the lowest calibration point for the analysis; therefore, results are estimated.
- 3. -- = Not Sampled
- 4. BOLD indicates analyte detected above method reporting limit.
- 5. DUP = Duplicate sample.
- 6. \* = RW-02 not sampled during April 2011 monitoring event. During the monitoring event the residential property owner indicated that the water well pump was no longer operable.











PROJEC <sup>*</sup>	T NUMBER 18	143-00/TZ	
FIELD F	REPORT NUMBER		-
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DATE	D4	/25/11 MONDA	Y

www.ashcreel	kassociates.com				
PROJECT	DEQ TAYLOR WMBER	ARRIVAL TIME	1115		
LOCATION	SHERIDAN, DREGON	DEPARTURE TIME	1700		
CLIENT	PEQ/EPA	WEATHER CLOUDY	OVERCAST I	(51°) WIND SW 18	31
PURPOSE C	OF OBSÉRVATIONS ANNUAL GROUND	WATER MONITOR	LING ACTIVI	nes	
ASH CREEK	REPRESENTATIVE M, WHITSON	ASH CREEK PROJE	CT MANAGER	5. BUSZE	
CONTRACTO	OR	PERMIT NO.	MODE ANNUAL		
CONTRACTO	OR REP.	H&S REVIEW	1		
		******			

Our firm's professionals are represented on site solely to observe operations of the contractor identified, to form opinions about the adequacy of those operations, and to report those opinions to our client. The presence and activities of our field representative do not relieve any contractor from its obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods, operations, send sequence of construction. Unless signed by the Ash Creek Associates Project Manager, this report is preliminary. A preliminary report is provided solely as evidence that field observation was performed. Observations and/or conclusions and/or recommendations conveyed in the final report may vary from and shall take precedence over those included in a preliminary report.

2900	PACK UP EQUIPMENT AND FIELD SUPPLIES, CALIBRATE PID	
	DEPART FOR SITE	
1115	ARRIVE ONSITE CHECK IN AT OFFICE, TOM BAFER NOT ONSITE, FIND WELLS	
	START OPENING WELLS, MOINITORING HEADSPACE WITH PIP	
	STARTS PAINING MODERATELY	
1300	STOPS PAINING	
1305	NORM READ (DER) APRIVES ONBITE WALK SITE, OPEN UP WELLS MW-105, MW-245	
	MW-115, DANNOT FIND MW-95 ACCROSS HWY 18, WALK OVER TO HOUSE AT	
	THAT LOCATION, OWNER POINTS OUT WELL	
	MOB BACK TO VAN	
1400	NORM READ DEPARTS	
1405	FINISH OPENING WELLS	
	OPEN PW WELL VAULTS	
	START GAVGING WELLS	
1600	FINISH GAVGING WELLS PW-03 UNABLE TO BE GAVGED, WILL RETURN LATER	
	CLEAN UP, CALIBRATE EQUIPMENT (YSI)	
······································	OFGANIZE GUPPINES FOR SAMPLING	
	SETUP SAMPLE BOTTLES, PUMP, POWER SUPPLY ETC.	
	ASK HOW LATE GATE TO SITE WILL PEMAIN UNLOCKED AT MAIN OFFICE, RECEPTION	******
CONTRACTOR SECTION	SAYS 1700 GATES WILL BE CLOSED AND LOCKED.	
	WRAP THINGS UP FOR DAY	
	PACK UP VEHICLE, CAU S. BOSZE TO VEDATE	
1700	DEPART SITE FOR HOTEL IN PALLAS, OR	
		ý

BY

REVIEWED BY

ASH CREEK ASSOCIATES REPRESENTATIVE



PROJECT	NUMBER	1843.0	0/12		
FIELD R	EPORT NUM	BER			
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www.asncreekassociates.com				
PROJECT TAYLOR	UMBER ANNVAL C	ARRIVAL TIME	0835	
LOCATION SHERIDA	N, OPEGON.	DEPARTURE TIME	1800	
CLIENT PEQ		WEATHER CLOUD	Y L. RAIN/	50'S) L. WINDS S
PURPOSE OF OBSERVAT	TONS ANNUAL GI	COUNDWATER MOM	TOPING AC	TIVITIES
ASH CREEK REPRESENT	ATIVE M. WHITSON	ASH CREEK PROJE	CT MANAGER	5, BOSZE
CONTRACTOR	para para	PERMIT NO.	gara. 1980.	
CONTRACTOR REP.	سكان موان	H&S REVIEW		

Our firm's professionals are represented on site solely to observe operations of the contractor identified, to form opinions about the adequacy of those operations, and to report those opinions to our client. The presence and activities of our field representative do not relieve any contractor from its obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods, operations, send sequence of construction. Unless signed by the Ash Creek Associates Project Manager, this report is preliminary. A preliminary report is provided solely as evidence that field observation was performed. Observations and/or conclusions and/or recommendations conveyed in the final report may vary from and shall take precedence over those included in a preliminary report.

0835	APRIVE ONSITE, HASP REVIEW, MOB TO PZ-105, SETUP ON WELL WITH EQUIP.
	START PURGING PZ-105
1015	PZ-105 SAMPLE TAKEN
	MOB 70 MW-155
	PURGE MW-155
1145	SAMPLE MW-155 TAKEN
	MOB TO MW-135
	PURGE MW-135
1200	
	MOB TO MW-125
	SETUP ON MW-125, 6-INCH PUC CASING WITH 9-FOOT WATER COLUMN
	WILL REQUIRE 13,3 GALLONS PER CASING VOLLME AT HIGHEST PUMPING
	PATE WITH PERISTALTIC PUMP WILL TAKE APPROXIMATELY 4.5 HOURS
	FOR 3 CASING VOLUMES, START PURGING WELL, CALL S, BOSZE ABOUT
	TIME IT WILL TAKE TO PURGE ALLOPPING TO PLAN, S. BOSZE EXPLAINS
	TO PURGE WELL, AND START COLLECTING PARAMETERS ON 5 MINUTE
	INTERVALS TO SEE IF VANUES EQUILIBRATE, S. BOSZE WILL CALL NORM
	READ TO DISCUSS CHANGE TO SAMPLING PLAN.
	WELL EQUILIBRATES, S. BOSZE CAUS, OFAY TO SAMPLE WELL AFTER
	STABILIZES,
1410	SAMPLE MW-12S TAKEN
	MOB TO MW-06D
	START PURGING MW-060, WELL IS ALMOST 30' TOTAL DEPTH, WILL ALSO
	REQUIRE 1.5 HOURS TO PURGE 3 CASING VOLUMES, CALL S. BOSZE TO ASK
BY	1 c n l a REVIEWED BY

**REVIEWED BY** 



PROJECT	NUMBER 15	543-00/TZ	<b>No.</b>	
FIELD RE	PORT NUMBER			
PAGE	2	OF	2	
DAŢE	04	126/11		

W W M.GSICICCAGSSOCIAICS.COTT
IF 5 MINUTE INTERVALS WILL BE ACCEPTABLE ON THIS WELL, OKAY
TO USE 5 MINUTE STABILIZATION METHOD ON MW-06D ONLY,
1510 SAMPLE MW-06D TAFEN SETUP ON MW-06S
PURGE MW-065
1620 SAMPLE MW-065 TAKEN, DUPLICATE, MATRIX SPIKE, AND MATRIX SPIKE DUPLICATE TAKEN, MOB TO MW-95
SETUP ON WELL, START PURGING
1750 SAMPLE MW-95 TAKEN 1800 CHEAN UP AND DEPART SITE
,

BY

REVIEWED BY

ASH CREEK ASSOCIATES REPRESENTATIVE



3015 SW First Avenue Portland, Oregon 97201-4707 (503) 924-4704 Portland (360) 567-3977 Vancouver (503) 943-6357 Fax www.ashcreekassociates.com

PROJEC <sup>*</sup>	T NUMBER	1843-00/1	2
FIELD F	REPORT NUME	BER _	
PAGE		OF	2,
DATE		04/27/11	

PROJECT	TAYLOR LUMBE	R ANNVAL	GWM A	ARRIVAL TIME	0700	
_	SHERIDAN, OR			DEPARTURE TIME	1845	
CLIENT	PEQ		\	NEATHER M.CL	EAR (505/	WS L. WIND S
PURPOSE C	F OBSERVATIONS	ANNVAL	GROUNDWI	ATER MONIT	opina Aca	IVITIES
ASH CREEK	REPRESENTATIVE	M. WHITSON	<i>F</i>	ASH CREEK PROJE	CT MANAGER	5, BOSZE
CONTRACTO	OR		F	PERMIT NO.	متدويم سمتندم	
CONTRACTO	OR REP.	- Par	<u> </u>	H&S REVIEW		

Our firm's professionals are represented on site solely to observe operations of the contractor identified, to form opinions about the adequacy of those operations, and to report those opinions to our client. The presence and activities of our field representative do not relieve any contractor from its obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods, operations, send sequence of construction. Unless signed by the Ash Creek Associates Project Manager, this report is preliminary. A preliminary report is provided solely as evidence that field observation was performed. Observations and/or conclusions and/or recommendations conveyed in the final report may vary from and shall take precedence over those included in a preliminary report.

0700	APRIVE ONSITE HASP REVIEW	CHECK IN	AT OFFICE, MOR TO MW-165
	SETUP ON MW-165		
	PURGE MURICIS		
0800	SAMPLE MW-165 TAKEN (MV	v-ibs due	)
	MOB to PZ-102		
	SETUP ON PZ-102		
0850	SAMPLE PZ-102 THEEN		
	MOB TO MW-1035	1505	SAMPLE MW-11S TAKEN
	SETUP ON MW-1035		MOB TO MW-255
0950	SAMPLE MW-1035 TAKEN		SETUP ON MW-255
	MOB TO MW-205	1610	SAMPLE MW-255 TAKEN
	SETUP ON MW-205		CLEAN UP, MOB OFFSITE TO RW-02
1045	SAMPLE MW-20S		LOCATION AT 1523 W. MAIN ST.
	MOB TO MW-195		KNOCK AT FRONT DOOR, NO ANSWER
	SETUP ON MW-195		WALK AROUND PROPERTY LOOKING
1150	SAMPLE MW-195 TAKEN	<b>1</b>	FOR OWNER OR TENAMT. NO ONE
· · · · · · · · · · · · · · · · · · ·	MOB TO PZ-101		FOUND, FIND WELL HOUSE, PUMP LOC-
	SETUP ON \$2-101		ATTON, PUMP NOT RUNNING, CALL S. BOSZ
1300	SAMPLE PZ-101 TAKEN		HOMEOWNER (STEVEN BURF) APRIVE
	MOB TO MW-IS		EXPLAIN PRESENCE AND REASON FOR
•	SETUP ON MW-15		VISIT, HOMEDWINER DOES NOT SEEM
1400	SAMPLE MW-IS TAKEN		HAPPY.
	MOB TO MW-115		CAH S, BOSZE, NEVER HAD ACCESS
	SETUP ON MW-115	<u> </u>	AGREEMENT NO SAMPLE COLLECTED

BY

**REVIEWED BY** 

ASH CREEK ASSOCIATES REPRESENTATIVE



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PROJECT	NUMBER /	893-06/T	2	
FIELD RI	EPORT NUMBER	e e		
PAGE	2	OF	Z	
DATE	04/-	27/11		

MOB TO RW-OI AT BOWMAN RESIDENCE, SPEAK WITH ROBERT BOWMAN GRANTS ACCESS TO TAP AT PUMPHOUSE, PURGE FOR 10 MINUTES
AND START COLLECTING PARAMETERS.  1715 SAMPLE RW-01 TAKEN  MOB TO MW-10S  SETUP ON MW-10S
1745 SAMPLE MW-105 TAKEN  MOB TO MW-245  SETUP ON MW-245
1835 SAMPLE MW-245 TAKEN 1845 CLEAN UP/DEPART SITE FOR PORTLAND.

ВҮ

ASH CREEK ASSOCIATES REPRESENTATIVE

**REVIEWED BY** 

# WELL GAGING DATA SHEET

		•		Weather:	OVERLEAGE	r (50's)	Time In/Out:
				WATER LI	EVEL DATA	*	
Well I.D.	Time	Depth to Free Product (feet)	Depth to Water (feet)	Depth to Well Bottom (feet)	Product Thickness (feet)	Water Column Height (feet)	Notes/Other Remarks
PZ-105	1432	genera golin.	3.45		secolo adoque		STICKUP; REPLACE LOCK (0.0)
MW-205	1435	Million and State of	5,5		Menoy delates		" (0,0
MW-195	1440		4,71		سننوي سجائنو		1) (0.0
PZ-101	1443	400 Mar	3.61		Meller - Andriane		11 (0,0
MW-1035	1450	_~	3.68		Table Shirt		FLUGH, 1-BOLT, HOD. (00)
MW-155	1453	nga siyaa	2,92'		enintra apara		FLUSH, H20 (0.0)
MW-166	1456	<b>140</b> W	2.95		, 2000°		FW5H (0.0)
PZ-102_	1459	<b></b> ,	3.54		gaper street		STICKUP, PEPLACE LOCK (0.0)
MW-135	1502	galder agoor	3.15		and the.		FLUGH NO BOLTS (0.1)
MW-125	1504	900 tor	2,80'	(-a)	<b>nga N</b> P		6" FWSH, HZO (0,0)
MW-06D	1506	Jan. Alter	2,35	, por	d ear eas		FWSH, H20, 2-BOLTS (0.0)
VW-065	1508	gelien sooniege.	2.72'	,	super plays.		FLUSH H20, 2-BOLTS (0.0)
MW-255	1511	1994 (MINE)	5.87		water made		STUKUP, REPLACE LOCK (0.7)
MW-15	1514		3.11		gype 448664		STICKUP, REPLACE LOCK (0,5
MW-113	1517	· guinne differen	2.59			Ý	11 (0,0)
MW-95	523	Notice Name	6.72'		Market April 19		FWSH, NO LOCK, H20 (0.0)
MW-245	1528	1. 26. 	13,59'		~ ~		STICKUP, REPLACE LOCK (0.0)
MW-105	1532	grave general	9,55		trades, systems	,	(0.0)
PW-1	1535		6,55	·	green dalation		TOP OF PLASTIC COVER
PW-02	1545	and the second	8,92'		ganin girin		· h
PW-03	1548	Main editable	-	v.	THE THE		WATERLEVEL PORT OBSTRUCT
PW-04	1555	est aper	11,98	2:	grav Clistic	<u>.</u>	TOP OF PLASTIC COVER
* NOTE	" Retla	est be	CKS 0	V Au	MEUS		
						r	
<u>V</u>							2
À.						•	
				,			
		·					
			_			1	* **

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W .						and a second	-		ł	1	- /	
*					Well I.D.				Job Number	1	17	
A 🌉	sh Cree	ek Associ Geotechnical Consult	iates, Inc		Client:	DEQ			Date:	04/26	5/ !!	
Em Em	vironmental and (	Geotechnical Consult	ants		Project:	TAYLOR LUMBER			Sampler:	MW		
		<del></del>			Weather:	M. CLOUE	<u> 27(505</u>	15W 15M	Time In/Out:			
		<u> </u>			W	VELL DATA	<u> </u>		i			
Well Depth:	_	12.0'	8		Well Diamet	er:	2'		Water Heigl	ht	11,60'	
Depth to Wa	ter:	3,40'-	-3,0' =	0,40'	Screened Int	terval:	7.7'-	11.7	x Multiplier		0,162	
Water Colum	nn Length:	11.60			Depth to Fre	e Product:			x Casing Vo	lumes	3	
Purge Volum	ne:	8 G	AL	4	Free Produc	t Thickness:			= Purge Vol	ume	1.87	
Water He	eight Multip	oliers (gal)	1-inch	= 0.041	2-inch	= 0.162	4-incl	n = 0.653	1 gallon = 3	3.785 liters	5.61	
		_			PUI	RGING DATA	Y					
Purge Metho	od:	PERISTA	LTIC_		Pump Intake	Depth:	2'BE	LOW NATE	R-SULF.		Comments	
Sampling Me	ethod:	LOW-FLE	W EPA		Tubing Type	:	PEDICA	ned ter	LON			
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate ( <del>L/min</del> )	pН	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks	
				GPM	+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria	
0908	1.67	1.87	5,58	0,15	6.85	10,55	87	3,63	148.7	22,8	CLEAR	
0923	1.87	3.7H	7.3	Ìï	6.35	10.92	86	1,21	76.1	22.8	u	
0932	1.87	5.61	7,52	11	6.29	11.02	86	1.21	98.1	25,8	4	
0947	1.87		7.52	1.	6.28	11,20	88	0,35	117.9	19,5	11	
1000	1,87	7.48	7,52	11	6.27	11,10	89	0.33	119,7	20,3	//	
			-									
		_										
				:		,						
		Clar	tv: VC = v	erv cloudv.	CI = Cloudy,	SC = slightly	cloudv. AC	= almost clea	r. C = clear		·	
						PLING DATA						
Sample	∍ ID:	PZ-105		Sampling	Flow Rate	0,15		Analytical La	boratory:	EGC		
Sample <sup>-</sup>	Time:	1015		Final Dep	oth to Water:	1, _, 1		Did Well De		YE	5	
# Containe	rs/Type	Preser	vative	Analys	is/Method	Field Fi	ltered	Filter Size		MS/MSD	Duplicate ID	
2×111	AG	Non	栏	PCP		yes	no	magnet 40			State Appear	
						yes	no					
		***				yes	no					
		***************************************			_	yes	no					
<u></u>		·				yes	no					
						yes	no					
<u> </u>		····			С	OMMENTS				I		
									1			
									· · · · · · · · · · · · · · · · · · ·			

ى					Well I.D.	MW-15S			Job Number: 1843-00/12			
Ash Creek Associates, Inc.				Client:	PEQ			Date:	04/26/11			
7	Environmental and (	Geotechnical Consult	ants	•	Project:	TAYLOR LUMBER			Sampler:	Sampler: MW		
					Weather:	CLOUDY/RAIN (40'S)			Time In/Out:			
					W	/ELL DATA						
Well Depth	:	12.5	) )		Well Diamete	er:	2"		Water Heigh	nt	9.64	
Depth to W	ater:	2,80	0		Screened Int	terval:	7.5-	12,5	x Multiplier		0,162	
Water Colu	ımn Length:	9.6	4		Depth to Fre	e Product:	-	, gas.	x Casing Vo	lumes	3	
Purge Volu	me:	6,50	AL-		Free Produc	t Thickness:	900	-0003-	= Purge Vol	ume	1.56	
Water I	leight Multi	pliers (gal)	1-inch	= 0.041	2-inch	= 0.162	4-incl	n = 0.653	1 gallon = 3	.785 liters		
,					PUF	RGING DATA	\					
Purge Meth	nod:	PERLIST	AVTIC		Pump Intake	Depth:	2'BE	LOW WATE	i i i i i i i i i i i i i i i i i i i	С	omments	
Sampling M	fethod:	LOW-FI	-0W		Tubing Type	:	TEFLO	N PEDICA	NED			
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (μS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks	
				GPM	+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria	
1/02	1.56	1,56	3,12	0,14	6.10	11,47	441_	1,02	123,9	45,2	CLEAR	
1113	1.56	3.12	3.15	11	6.19	11.51	477	0.5%	109.4	43,3	1)	
NZH	1,56	4,66	3.16	11	6,21	11,44	480	0,37	107.2	41.5	"	
1135	1,56	6,24	3.16	/1	6.21	11.45	480	0,35	108,7	40.8	Ú)	
		Clar	ity: VC = v	ery cloudy,		SC = slightly IPLING DATA		= almost clea	r, C = clear			
Samp	ole ID:	MW-I	55	Sampling	-	0.14	<u> </u>	Analytical La	horatory:	ESC		
Sample		1145			oth to Water:	3.13				No		
# Contain		Preserv			is/Method	Field Fi	Itered		Size	MS/MSD	Duplicate ID	
2x1L	AG			PCP		yes	(no)	A second	· Name		NO	
				yes	no		···					
				yes	no				***			
						yes	no					
						yes	no					
						yes	no					
					C	OMMENTS						

					Well I.D.	MW-10	<u> </u>		Job Number:	1843-6	10/T2
	Ash Cree	ek Associ	iates Inc		Client:	DEQ			Date:	04/26	líi
	invironmental and (	ek Associ Geotechnical Consult	ants	•	Project:	TAYLOR	WMBE	Que.	Sampler:	MW	
					Weather:	CLOUDY	2		Time In/Out:		
					M	VELL DATÁ					
Well Depth:		1	4'		Well Diamet	er:	2		Water Heigh	nt	10.89'
Depth to W	ater:	3,1			Screened In	terval:	9-14.	1	x Multiplier		0.162
Water Colu	mn Length:	10.	89'		Depth to Fre	e Product:	lance	#or	x Casing Vo	lumes	Ž
Purge Volu	me:				Free Produc	t Thickness:		No.	= Purge Vol	ume	1.76
Water H	leight Multip	oliers (gal)	1-inch	= 0.041	2-inch	= 0.162	4-incl	า = 0.653	1 gallon = 3	.785 liters	
					PUI	RGING DATA	\				
Purge Meth	od:	PERIST	AUTIC		Pump Intake	Depth:	~2'E	ELOW WA	TEE	c	omments
Sampling M	lethod:	LOW-F	FLOW		Tubing Type	:	TE	LON DED	CATED		
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	рН	Temp (°C)	Cond (μS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria
1223	1,76	1,76	387	0,15	6.11	10.73	946	0.74	106.	25.5	<u>C</u>
1236	1.76	3,52	3.87	11	6.15	10.76	945	0.39	91.6	24,6	<u>C</u>
1245	1.76	5,28	3.88	Ø3	6.17	10.76	964	0.30	89,5	23,8	<u> </u>
258	1,76	7.04	3,89	\$ g	6.19	10.77	965	0,29	88.8	24,5	
<u> </u>											
											······································
								1			
						١.					
		Clar	ity: $VC = v$	ery cloudy,		SC = slightly IPLING DATA		= almost clea	r, C = clear		
Samp	le ID:	MW-15	35	Sampling		0.15		Analytical La	horatory:	おこ	
Sample		1300			oth to Water:	3.59		Did Well Dev			40
# Contain		Presen			is/Method	Field Fi		Filter		MS/MSD	Duplicate ID
2×16				. Pc	P	yes	60)		per-	ş	ACCOUNT ACCOUNTS
	j.					yes	no				
*******		****		***********		yes	no		Maria V		
		***************************************				yes	no				
						yes	no				
						yes	no				
					C	OMMENTS					
						-					
									*		

				VV	ELL MONIT	1			1		7
					Well I.D.	MW-17	ls_		Job Number:	1	· 00/TZ
	Ash Cre	ek Associ	iates, Inc		Client:	PEQ			Date:	04/7	16/11
₹ E	nvironmental and (	Geotechnical Consult	tants		Project:	TAYLOR		<i>M</i>	Sampler:	MW	
		_			Weather:		405-50	<u>)5)                                   </u>	Time In/Out:		
					N N	ELL DATA	1				T
Well Depth:		12	<u> </u>		Well Diamet	er:		<u>,                                    </u>	Water Heigh	nt	9,13'
Depth to W	ater:	2,8		·····	Screened Int	terval:	7-1	2'	x Multiplier		4,46
Water Colu	mn Length:	9,	13'		Depth to Fre	e Product:		مندر حديد	x Casing Vo	lumes	3
Purge Volur	ne:	10	GAL		Free Produc	t Thickness:	-	MA AMERICAN	= Purge Vol	ume	13,32
Water H	leight Multi	oliers (gal)	1-inch	= 0.041	2-inch	= 0.162	4-incl	h = 0.653	1 gallon = 3	.785 liters	39.96
					PUI	RGING DATA					
Purge Meth	od:	PENSO	AUTIC_		Pump Intake	Depth:	~21	SELOW V	VATER	c	Comments
Sampling M	ethod:		-Frow		Tubing Type	:	DEDI	CATED T	EFLON		*:
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	рН	Temp (°C)	Cond (μS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria
1347	8,0	8,0	3,98	0.14	6,80	10,04	1,176	6,10	69.1	2.84	C
1352	0-7	8.7	4,02	ł i	6,78	10.06	1,176	0.38	61.9	2,78	٥
1357	0.7	9.4	4,03	0 <sub>2</sub>	6,78	10,09	1,174	0.30	60,0	2.70	<u>C</u>
1408	0.7	0.	4,03	Ry	6,78	10,12	1,173	0,27	58,5	2.69	C
			44.44.4								
					· · · · · · · · · · · · · · · · · · ·			,		,	
		Clar	ity: VC = v	ery cloudy,	Cl = Cloudy, SAM	SC = slightly IPLING DATA		= almost clea	ar, C = clear		
Samp	e ID:	MW-12	S	Sampling l	Flow Rate	0,14	·	Analytical La	boratory:	E	×
Sample	Time:	1410	)	Final Dep	oth to Water:	4,0	2	Did Well Dev	vater?	~	10
# Contain	ers/Type	Preserv	vative	Analys	is/Method	Field Fi	Itered	Filter	r Size	MS/MSD	Duplicate ID
2X1 L1	14	NON	E	PC	P	yes	<u>(no)</u>	-	anth anterna	Marine Assess	•
						yes	no				
			~			yes	no				
						yes	no				
						yes	no				
						yes	no				
					C	OMMENTS					
CALLS	BOSTE	W/6"	CASIN	A. AND	40 GA	HONS T	D PURO	世 多 0	ASING V	OLUME	5, USING
PEPI	ovmo v	VOULD -	TAKE	4,5 HO	URS, PUL	UE SOM	E VOL	UME A	NP COU	ECT (	PAPAM,
					STABIL					<u> </u>	

EVERY 5 MINS, WHEN VALUES STABILIZE SAMPLE WELL.

		***************************************			T	T				1	1
_				•	Well I.D.				Job Number	1843	-00/TZ
	Ash Cre	ek Associ	iates Inc		Client:	PER	<u> </u>		Date:	04/	26/1)
₹ E	nvironmental and (	Geotechnical Consul	tants	•	Project:	TAYLOR	2 LUN	HER_	Sampler:	MW	
	,				Weather:	RAIN (	405.50	<del>i</del> 5)	Time In/Out:		
					V	VELL DATA		, , , , , , , , , , , , , , , , , , ,			
Well Depth:		29,2			Well Diamet	er:	2	1/	Water Heigl	nt_	26:72
Depth to Wa	ater:	2,48	<b>†</b>		Screened In	terval:	19.9.	-29.2'	x Multiplier		0,162
Water Colui	mn Length:	<i></i>			Depth to Fre	e Product:	200	gs. West-	x Casing Vo	lumes	3
Purge Volur	ne:	5,5	GAL		Free Produc	t Thickness:		<sup>697</sup> Keez	= Purge Vol	ume	4.32
Water H	leight Multip	oliers (gal)	1-inch	= 0.041	2-inch	2-inch = 0.162		n = 0.653	1 gallon = 3	3.785 liters	12,00
					PUI	RGING DATA	1				
Purge Meth	od:	PERIS	TALTIC		Pump Intake	Depth:	2' BE	LOW WAT	tel		Comments
Sampling M	ethod:		-FLOW		Tubing Type	:	DEDICE	TEP TEF	ion :		
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pН	Temp Cond DO (μS/cm) (ppm)			ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
				GOM	+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria
1448	3,5	3.5	2,99'	0.15	6,62	10,03	4106	0,55	53,8	2,70	CLEAR
1453	0,5	4,0	2,99'	11	6,58	10.11	1,088	0.43	55,5	0,41	ti .
1458	0,5	4,5	7.99'	p	6,57	10,12	1,087	0.29	56.3	0,39	//
1503	0,5	5.0	2.99	J1	6,54	10,13	1,072	0.25	56.8	0.38	<b>4</b>
1508	0,5	5,5	2,99	31	(0,52	10,13	1,062	0.27	57,6	0.37	¥
						1-2					
						2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -			ě		
							of the				
							-				·
		Clar	ity: VC = ve	ery cloudy,	CI = Cloudy, SAN	SC = slightly IPLING DATA		= almost clea	r, C = clear		
Sampl	e ID:	WM-	060	Sampling l	Flow Rate	0.15	)	Analytical La	boratory:	E.	5C
Sample	Sample Time: 1510 Final D					2,50	>	Did Well Dev	vater?		MO
# Containe	ers/Type	Preser	vative	Analys	is/Method	Field Fi	Itered	Filter	Size	MS/MSD	Duplicate ID
Zx IV P		The state of the s		ρε		yes	(no)		Asset our contract of	togetom-	ALTS -
						yes	no		•		
						yes	no				
				ž.		yes	no				
						yes	no		-		
						yes	no				
						OMMENTS					<u> </u>

				VV	ELL MOMI	ONING DA	IA SHEET				
	-				Well I.D.	MW	1-065		Job Number	1843	-00/M2
A.	Ach Cred	ek Associ	iates Inc		Client:	DE Q			Date:	04/2	6
F 6	vironmental and (	ek Associ Geotechnical Consult	iants	•	Project:	TAYLO	R LVM	SER	Sampler:	M	
					Weather:		405-5		Time In/Out:		
					N	VELL DATA					
Well Depth:		104	<b>Y</b>		Well Diamet	er:	2"		Water Heigh	nt	9,03
Depth to Wa	ater:	2,8			Screened Int	terval:	6,5	-11.4/	x Multiplier		0,162
Water Colu	nn Length:	9,0	3'		Depth to Fre	e Product:	gar-		x Casing Vo	lumes	3
Purge Volur	ne:		15 GAL	-	Free Produc	t Thickness:	3:		= Purge Vol	ume	1.40
Water H	leight Multip			= 0.041	2-inch	= 0.162	4-incl	า = 0.653	1 gallon = 3	3.785 liters	4.40
					PUI	RGING DATA	4				
Purge Meth	od:			Ç 2006	Pump Intake	Depth:					Comments
Sampling M	ethod:				Tubing Type	:					
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pН	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria
1537	1.50	1.50	5,02	0.14	7,46	11.16	2,175	9,35	-94,8	0.71	<u>C</u>
1548	1,50	3,00	5,17	de se	7,52	12.12	2,781	8.14	-77,5	0.83	C
1558	1.50	4,50	5,28	11	7,100	12,26	3,148	7,19	-73,4	0.79	C
1603	0.75	5,26	4,63	١,	7,61	12.16	3,151	6,28	-100.2	0,76	<u></u>
1608	0.75	6,00	4.45	f to	7,61	12.11	3,147	607	-102,5	070	C
1613	0.71%	6,50	4,23	h.	7,62	12.06	3,139	5.72	-106.4	0,67	<u>C</u>
											***************************************
		Clari	ity: VC = v	ery cloudy,	Cl = Cloudy,	SC = slightly IPLING DAT		= almost clea	ar, C = clear		
Sampl	o ID:	MW-06	<u> </u>	Sampling				Analytical La	horatory:		5C
Sample		1620			oth to Water:	4,15	1	Did Well Dev			VO
# Contain		Preserv			sis/Method	Field F			r Size	MS/MSD	Duplicate ID
7 u 11	h L	Preserv		PC		yes	no			IVIG/IVIGD	Dupilicate ID
<u> </u>	nų	JVUIV.	سنتا			yes	no				
			÷			yes	no				
						yes	òno				
		·				yes	no				
·				,		yes	no				
			***		С	OMMENTS					

					Well I.D.	MW-9.	5		Job Number	1843	-00 /TZ
A	Ash Cre	ek Associ	ates Inc	i	Client:	DEQ			Date:	04/21	0/11
7	invironmental and (	ek Associ Geotechnical Consult	ants	•	Project:	TAYLOR	. LUME	3EK	Sampler:	MW	.*
					Weather:		40'5-5		Time In/Out:	1700	
					N	VELL DATA		1			
Well Depth		14,5	3		Well Diamet	er:	2	žt.	Water Heigh	nt	8.20
Depth to W	ater:	6.10			Screened Int	terval:	6.3-	13.3'	x Multiplier		0.162
Water Colu	mn Length:	8.2	. D		Depth to Fre	e Product:			x Casing Vo	lumes	1,32×3
Purge Volu	me:	4.2	15 GAL		Free Produc	t Thickness:			= Purge Vol	ume	4.0
Water H	Height Multi	pliers (gal)	1-inch	= 0.041	2-inch	= 0.162	4-incl	n = 0.653	1 gallon = 3	3.785 liters	
					PUI	RGING DATA	<u> </u>				
Purge Meth	od:	DE014	MYTIC		Pump Intake	Depth:	21 BE	LOW SURF	ACE	c	omments
Sampling M	lethod:	JOW-F	MN		Tubing Type	:	TEFL	ON			
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pН	Temp (°C)	Cond (μS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
ļ			<u> </u>		+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria
1723	1.33	1,33	.6.68	0,14	6.03	10,67	123	5,70	81,6	1.13	Ç
1933	1,33	2.66	6.68	//	6,03	10.68	125	5,53	98.2	1.1/	C
1743	1.33	4,0	6.68	lr .	6,05	10,67	127	5,49	103,0	1.09	C
									14.000		
											***************************************
											- Large Larg
							<u> </u>				
		Clari	ity: VC = V	ery ciouay,		IPLING DATA		= almost clea	ır, ∪ = clear		. 1
Samp	le ID:	MW-9	4	Sampling	Flow Rate	0,14		Analytical La	boratory:	E30	
Sample		1750	,		oth to Water:	6,59		Did Well Dev			10
# Contain		Presen			is/Method	Field Fi			Size	MS/MSD	Duplicate ID
:2x 12		Augustus Vincolonium		R	D	yes	(no)		ester and	Ren zegizi,	1620-1 without
				Ŧ		yes	· no				
						yes	. no				
						yes	no	- 14			
					6	yes	no				
			_		***************************************	yes	no				
					C	OMMENTS		•			
	•.										
							č"				

Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear   SAMPLING DATA   Sample ID:   MW-165   Sample Flow Rate   OHD   Sample Flow Rate   OHD   Sample Time:   O800   Final Depth to Water:   3,15   O.15   O.16   O.16   O.17   O.17   O.17   O.18   O.17   O.18												
Project: Thylod   Miles   Sampler:   MW   Wester   Miles   M	ζ.					Well I.D.	MW-16:	5		Job Number:	1943.	00/TZ
Project   TAYLOF   MVB   2   Sampler   MW   Westher:   Project   TAYLOF   MVB   2   Sampler   MW   MVB   M	Å A	ich Cre	ek Associ	iates Inc	•	Client:	DEQ			Date:	04/27	11
Weather:   Captivity   Capti	En.	inonmental and (	Georechnical Consult	iants		Project:		- Lune	t:12	Sampler:	MW	,
Well Depth: 13.5   Well Diameter: 2   Water Height   10.75						Weather:		······		Time In/Out:	0710	1
Depth to Water:   2,75	-					M	VELL DATA	35				
Water Column Length   10-75   Depth to Free Product:	Well Depth:		13,5	<u> </u>		Well Diamet	er:	2	. ''	Water Heigh	nt	10.75
Purge   Volume	Depth to Wa	ter:	2,75			Screened In	terval:	8.5-	13,5	x Multiplier		0.162
Water Height Multipliers (gal)	Water Colum	n Length:	10_7.	5		Depth to Fre	e Product:	person.		x Casing Vo	lumes	1.75 x 3
Purge Method:	Purge Volum	ie:	5.7	5 GAL		Free Produc	t Thickness:		· · · · · · · · · · · · · · · · · · ·	= Purge Vol	ume	5,25
Pump   Intake Depth:   2' ELICAL   WATTEL   Comments	Water He	eight Multip	oliers (gal)	1-inch	= 0.041	2-inch	= 0.162	4-inc	h = 0.653	1 gallon = 3	3.785 liters	
Sampling Method:   LOW FLOW   Tubing Type:   PEDICATED TEFFON						PUI	RGING DATA					
Time Volume Purged (liters) DTW Purge Rate PH (1.0min) DTW Purged (liters) PH (1.0min) PH-0.1 +1-0.5° C +1-5% +1-0.5 pm +1-20mV +1-10%sublitation criteria DT%2 1.75 1.75 2.71 0.15 6.36 11.6% 17.3 0.31 130.1 0.41 C 1.75 0.74 1.75 3.50 3.73 11 6.44 11.80 49.2 0.22 120.4 0.41 C 1.75 0.762 1.75 5.25 2.73 11 6.44 11.80 49.2 0.21 11.8.7 0.40 C 1.75 0	Purge Metho	d:	PERMAIT	IC	722_	Pump Intake	Depth:	2' 8	ELOW W	ATTER		Comments
Time	Sampling Me	thod:		FLOW		Tubing Type	:	DEDIC	CATED TE	Flon		
1.75   1.75   3.71   0.15   0.36   11.68   473   0.31   130.1   0.41   C	Time	Purged	Volume Purged	ı	Rate	pН	1	i	i		, -	Clarity/Color Other Remarks
0742   1.75   3.50   3.73						+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria
0742 1.75 3.50 3.73 □ 6.4□ 11.80 492 0.22 120.4 0.4□ C  0752 1.75 5.25 5.73 □ 6.4□ 11.87 499 0.2□ 178.7 0.40 C  Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear  SAMPLING DATA  Sample ID: MW-16≤ Sampling Flow Rate 015 Analytical Laboratory: ESC  Sample Time: 0.600 Final Depth to Water: 3.15 Did Well Dewater? No  # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  2 × 1 → AG	0732	1.75	1.75	3.71	0.15	6.36	11.68	473	0.3	130.1	0.41	C
1.75   5.25   5.73	0747	1.75	3.50		11	6.41	11.80	492	0.22	120.4	0.41.	^
Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear  SAMPLING DATA  Sample ID: MW-16 Sampling Flow Rate DM Analytical Laboratory: ESC  Sample Time: 0'800 Final Depth to Water: 2,15 Did Well Dewater? ND  # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  Yes no  yes no  yes no  yes no	,							1				
Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear  SAMPLING DATA  Sample ID:	0107	1:15	0165	1	1 11	0,37	,0	777	0.21	1170,1	0,40	<u> </u>
Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear  SAMPLING DATA  Sample ID:			····									
Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear  SAMPLING DATA  Sample ID: MW-16  Sampling Flow Rate DB Analytical Laboratory: ESC.  Sample Time: 0%00 Final Depth to Water: 3,15 Did Well Dewater? No  # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  7 x 1 x 46  yes no  yes no  yes no  yes no												
Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear  SAMPLING DATA  Sample ID: MW - 16 Sampling Flow Rate Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater?  # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  Yes no  yes no  yes no  yes no  yes no	d .											
Sample ID: MW-165 Sampling Flow Rate DW Analytical Laboratory: ESC Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater? NO # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  2 × 1 L AG PCP yes no  yes no  yes no  yes no  yes no												
Sample ID: MW-165 Sampling Flow Rate DW Analytical Laboratory: ESC Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater? NO # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  2 × 1 L AG PCP yes no  yes no  yes no  yes no  yes no												
Sample ID: MW-165 Sampling Flow Rate DW Analytical Laboratory: ESC Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater? NO # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  2 × 1 L AG PCP yes no  yes no  yes no  yes no  yes no		. 1										
Sample ID: MW-165 Sampling Flow Rate DW Analytical Laboratory: ESC Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater? NO # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  2 × 1 L AG PCP yes no  yes no  yes no  yes no  yes no	, ,											
Sample ID: MW-165 Sampling Flow Rate DW Analytical Laboratory: ESC Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater? NO # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  2 × 1 L AG PCP yes no  yes no  yes no  yes no  yes no	, and the second	,										
Sample ID: MW-165 Sampling Flow Rate DM Analytical Laboratory: ESC  Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater? No  # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  2 x 1 L AG	:		Clar	ity: VC = v	ery cloudy,				= almost clea	ar, C = clear		
Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater? No  # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  7 × 1 → AG PCP yes no  yes no  yes no  yes no  yes no  yes no	Sample	· ID·	MW-I	65	Sampling			-	Analytical La	horatory:	1	-S(
# Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  Z × 1 \( \) \	,											
Z × I L AG            MW-165 DI           yes         no         yes         no            yes         no              yes         no					1							
yes         no           yes         no           yes         no           yes         no           yes         no					25							MW-16500
yes no yes no		····					yes	no				
yes no yes no							yes	no	,			
							yes	no		•		
yes no						****	yes	no				
COMMENTS								no			1,	
						-						

					LLL MONT				1		7
					Well I.D.	PZ-10	7		Job Number:		00/TZ
	Ash Cred	ek Associ	iates Inc		Client:	PER			Date:	04/	27
# 6	nvironmental and (	ek Associ Geotechnical Consult	iants	••	Project:	TAYLOR	LUME	ek.	Sampler:	MW	
					Weather:	MCLEAR	(605)		Time In/Out:		
					٧	ÆLL DATA					
Well Depth:		-	2.2'		Well Diamet	er:	Z'		Water Heigh	nt	8,8
Depth to Wa	ater:	3.4	0		Screened In	terval:	9.1	2'	x Multiplier		0.162
Water Colu		G	,80'		Depth to Fre	e Product:			x Casing Vo	lumes	1.42×3
Purge Volur		í	5 GAL		Free Produc			- argumin	= Purge Vol		4,25
	leight Multip		,	= 0.041		= 0.162	4-incl	h = 0.653	1 gallon = 3		
			L		<del></del>	RGING DATA	<u> </u>				
Purge Meth	od:	PAR15	TAVIC	····	Pump Intake	Depth:	2' 50	LOW W	ATER.		Comments
Sampling M			-FLOW	•	Tubing Type				FLON		
<u></u>	Volume	Cumulative		Purge						« /	* * * * * * * * * * * * * * * * * * * *
Time	Purged (liters)	Volume Purged (liters)	DTW (btc)	Rate (L/min)	pН	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remark
					+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteri
0825	1.42	1.42	3.70	0,15	6.86	10.82	352	0.43	141,5	3.35	<u>e</u>
0834	1.42	2.84	3,74	2.2	6,85	11,15	417	0.23	158.7	18.2	C
0843	1.42	4.26	3.75	11	6,8	11.24	421	0.21	159,0	17.8	<u> </u>
				ı.							
							- many		annu y		-
		Clar	ity: VC = v	ery cloudy,		SC = slightly		: = almost clea	r, C = clear	<u> </u>	
		Dr. 1	)	0	-	<u> </u>		A	h 4	ESC	
Sampl		PZ-102		Sampling		0.15		Analytical La			
Sample		0850			oth to Water:	3,46		Did Well Dev	***	N	
# Contain	· · · · · · · · · · · · · · · · · · ·	Preser	vative		is/Method	Field Fi	Itered	4	Size	MS/MSD	Duplicate ID
2×1-1	49	som per		l PC	4	yes		риг	<i>(</i> ************************************	giants Ass.	
		W-1- <sub>2-1</sub>				yes	no	'a			
					_	yes	no	<u> </u>	·····		
						yes	no			液	
-				.`		yes	no			-	* * .
						yes	no				*
						OMMENTS					* :

					TEL MONT	· · · · · · · · · · · · · · · · · · ·			T		
					Well I.D.	MW-I	035_		Job Number:	1843.	00/12
Å A	sh Cree	∍k Associ	iates Inc	•	Client:	TEQ			Date:	04/2	7/11
Env	rironmental and C	ek Associ Georechnical Consul	iants		Project:	TAYLO	2 LUME	一起	Sampler:	MW	•
					Weather:	CLEAR	(605)		Time In/Out:		
					. N	ELL DATA					
Well Depth:		16	.0'		Well Diamet	er:	7	) <sup>pa</sup>	Water Heigh	nt .	12,39
Depth to Wat	ter:	3,6			Screened Int	terval:		5-15,5	x Multiplier		0,162
Water Colum			39'		Depth to Fre	e Product:			x Casing Vo	lumes	2,0×3
Purge Volum			25 GAL		Free Produc	· · · · · · · · · · · · · · · · · · ·			= Purge Vol		6.0
	eight Multip			= 0.041		= 0.162	4-incl	n = 0.653	1 gallon = 3		6.0
***************************************	, ig. 1	(9)			<del></del>	RGING DATA			1 3		
Purge Metho	d:	PERIST	ALTIC		Pump Intake	Depth:	2' B	ELOW W	ATEZ		Comments
Sampling Me		***************************************	FLOW		Tubing Type			ATED TR			
	Volume	Cumulative		Purge	1.009 . 7 / 0						<u> </u>
Time	Purged (liters)	Volume Purged (liters)	DTW (btc)	Rate (L/min)	pН	Temp (°C)	Cond (μS/cm)	(ppm)	ORP: (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria
0925	2.0	2.0	5.02	0.16	6,00	12.04	476	0,70	142,9	0,64	<u>C</u>
6935	2,0	4.0	5,10	12	6,00	12.04	475	0.43	1429	1,45	C
0945	2.0	6,0	5.11	. 12	6.00	12.01	476	0,39	144.0	1,36	C
			- 100 1100			,			And the contraction		
-										_	· .
		Clar	ity: VC = v	ery cloudy,	CI = Cloudy,	SC = slightly IPLING DAT		= almost clea	ar, C = clear		
		M 1.	N2.C						1	E	· /*
Sample	1	MW-[(	W-	Sampling		0,16		Analytical La		the state of the s	
Sample 1		<u> </u>			oth to Water:	3.77		Did Well Dev			No
# Container	-	Preser	vative		is/Method	Field F	iltered (no)	Filter	Size	MS/MSD	Duplicate ID
ZXILA	4	Assist Applica		PC	- Pro-	yes			es. <sub>Al</sub> linos.	satism jenka,	Albert Albert
· · · · · · · · · · · · · · · · · · ·		***************************************				yes	no				
		***************************************				yes	no		*		
						yes	no				
						yes	no				-
***************************************				l		yes	no		•		

				VV	ELL MONII	ORING DA	A SHEE				
					Well I.D.	MW-20	5		Job Number	: 1843	-00/12
À.	Ach Cree	ek Associ	iates Inc		Client:	PEQ			Date:	04/2	=7/U
* E	nvironmental and (	ek Associ	iants	••	Project:	TAYLOR	LUME	SEE.	Sampler:	MW	
					Weather:	MOSTLY		~ ```	Time In/Out:	1000	7
		·			М	/ELL DATA					
Well Depth:		parente	4,5		Well Diamet	er:	2	li	Water Heigl	nt	11.23
Depth to W	ater:	5,	18'-25	51=3,27	Screened In	terval:	4,0	14.0'	x Multiplier		0,162
Water Colu	mn Length:		23		Depth to Fre	e Product:		. yeak.	x Casing Vo	lumes	x 3
Purge Volui	me:	5	,5 GAL	-	Free Produc	t Thickness:	pun	· DEN	= Purge Vol	ume	1.80
Water H	leight Multip	oliers (gal)	1-inch	= 0.041	2-inch	= 0.162	4-incl	n = 0.653	1 gallon = 3	3.785 liters	5.4
					PUI	RGING DATA	<u> </u>				
Purge Meth	od:	PERIS	TALTIC	e	Pump Intake	Depth:	3/ 5	ELOW W	MTER		Comments
Sampling M	lethod:		y Fron		Tubing Type	:	DEDI	CATED	EFLON		
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pН	Temp (°C)	Cond (μS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
		(mcrs)			+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria
1015	1.8	1,8	8.02	0,15	5.97 11.02 108 1.13			1,13	46.7	44,6	AC
1027	1.8	3.6	8,54	Fr .	6,09	11.37	135	0,23	25,0	31,4	n
1039	1.8	54	8,58	7,	6,13	11,29	144	0.25	22.0	29.9	ly .
<b>VA</b>											·
	,	- Amarika									
										- 185°	
				,							
		Clar	ity: VC = v	ery cloudy,	Cl = Cloudy,	SC = slightly IPLING DATA		= almost clea	ar, C = clear		
Samp	le ID:		ns	Sampling		0.15		Analytical La	horatory.	=	SC
Sample		1045			oth to Water:	8,05	- 1	Did Well Dev		1	NO
# Contain		Preser			sis/Method	Field Fi			Size	MS/MSD	Duplicate ID
ZXIL		FIESE!	vauve	PC		yes	(no)	1 11(6)	JIEC .		Dupinoate iD
-11-	1			4 24		yes	no				
					_	yes	no				
						yes	no				
			······			yes	no				
					-	yes	no				
						OMMENTS		<u> </u>		<u> </u>	<u> </u>

Client   PES						Well I.D.	MW-1	16		Job Number	14413.	-06/TZ
Project		A 1. C	-1. A:			46.1.4	<del>                                     </del>				,	, ,
Weather:   P.CADPY   So.3 <ab style="color: lightgray;">Well Dearber:   P.CADPY   So.3 <ab style="color: lightgray;">Well Dearber:   P.CADPY   So.3 <ab style="color: lightgray;">VELI DATA   Dearber:   P.CADPY   So.3 <a style="color: lightgray;">C. J. J.</a></ab></ab></ab>		AST Creation of the Control of the C	CK /\SSOCI Geotechnical Consult	iates, Inc				LIMP	en P	,	-	
Well Depth:   15.5     Well Diameter:   2."   Water Height   12.06								A	A 40		/	
Depth to Water:   5,06-1,72=7,84    Screened Interval:   5,0-15,1   x Multiplier   0,162   2,05 x 2						<del></del>	<u> </u>	1200		171110 111/041	110 24	
Depth to Water:   5,06-1,72=7,84    Screened Interval:   5,0-15,1   x Multiplier   0,162   2,05 x 2	Well Depth		15.5	1		Well Diamet	er:	7	1/	Water Heigh	nt	12.66
Water Column Length:   12,166   Depth to Free Product:			5.00	0-2,22	= 2,84'							
Purge Volume	•		3						-	x Casing Vo	lumes	
Water Height Multipliers (gal)	,							254	No.			T
Purge Method:     Purge   Purge Method:     Purge   Purge   Purge   Purge (liters)   Purge (liters)   Purge (liters)   Purge (liters)   Purge   Purge   Purge (liters)   Purge   Purge (liters)   Purge   Purge (liters)   Purge (l						1		4-incl	n = 0.653			
Tube								<u> </u>				
Tube	Purge Meth	od:	DERIG	STALTIC	g gener	Pump Intake	Depth:	3' bt	TOW W	ATTR		Comments
Time	Sampling M	lethod:				Tubing Type	:					
1	Time	Purged	Volume Purged	l	Rate	pН	1	Cond	DO	ORP		
1 28   2,05   4,10   7,56   "   5,76   1 .26   165   0.29   127,0   3,03   C     1 43   2,05   6,15   7,53   "   5,79   1 .24   165   0.26   132,4   3.13   C	*		(IIIC)			+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria
143   2.05   6.15   7.53   '   5.79   11.24   165   0.26   132,4   3.13   C	1113	2.05	205	7,5)	0.14	5.63	11,23	163	0.47	108.6	3,8	C
143   2,05   6,15   7,53   '   5,79   11,24   165   0,26   132,4   3,13   C	1128	2.05	4.10	7,56	I <sub>2</sub>	5.76	11.26	165	0.29	127.0	3,03	C
Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear  SAMPLING DATA  Sample ID:		2.05	6,15		1,			165		132,4	l	C
Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear  SAMPLING DATA  Sample ID:												
Sample ID: MW-195 Sampling Flow Rate 0, 14 Analytical Laboratory: ESC Sample Time: 1/50 Final Depth to Water: 0, 14' Did Well Dewater? NO  # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  2 × 1 L A4 - PCP yes no			MProposition and the second									
Sample   D:   MW -   95   Sampling Flow Rate   0,   4   Analytical Laboratory:   ESC			<del>-</del>									
Sample ID: MW-195 Sampling Flow Rate 0, 14 Analytical Laboratory: ESC Sample Time: 1/50 Final Depth to Water: 0, 14' Did Well Dewater? NO  # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  2 × 1 L A4 - PCP yes no												
Sample ID: MW-195 Sampling Flow Rate 0, 14 Analytical Laboratory: ESC Sample Time: 1/50 Final Depth to Water: 0, 14' Did Well Dewater? NO  # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  2 × 1 L Aq - PCP yes no			Clar	ity: VC = v	ery cloudy	Cl = Cloudy	SC = elightly	cloudy AC	= almost clos	r C = clear	L	
Sample Time: 1/50 Final Depth to Water: (0, 14) Did Well Dewater? NO  # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  2 × 1 L A4 PCP yes no			Olai	,. VO – V	c.y cloudy,				-	ii, O oldai		
# Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  2 x   L Aq	Samp	le ID:	MW-	195	Sampling	Flow Rate	0,14		Analytical La	boratory:	ES	Low
# Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID  2 x   L Aq	Sample	Time:	//50		Final Dep	oth to Water:	6.14	1	Did Well Dev	vater?		10
2 x 1 L Aq          PCP         yes         no              yes         no         yes         no	# Contain	ers/Type	Preser	vative	Analys	is/Method			Filter	Size	MS/MSD	Duplicate ID
yes no			park garden				yes	(no)	ton	7664		Terreno 1000ani
yes no yes no yes no							yes	no				
yes no yes no							yes	no				
yes no							yes	no				,,
							yes	no				
COMMENTS							yes	no				
							OMMENTS		•			
						<del>-</del>						

					Well I.D.	PZ-101	*		Job Number	: 1843-	00/TZ
A.	Ash Cred	ek Associ	ates Inc		Client:	PEQ			Date:	04/27	/11
F E	invironmental and (	ek Associ Geotechnical Consult	ants	•	Project:	TAYLOR	2 LUM	EER	Sampler:	MW	
					Weather:	M. CLET		*	Time In/Out:	1200/	
					N	ELL DATA				· ·	
Well Depth:		13	,5		Well Diamete	er:	1	ł ł ł ł ł ł ł ł ł ł ł ł ł ł ł ł ł ł ł	Water Heigh	nt	11,60
Depth to W	ater:	3,5	2-1.68	=1.54	Screened Int	terval:	7-12	>.0'	x Multiplier		0.167
Water Colu	mn Length:	11,0	66		Depth to Fre	e Product:		*****	x Casing Vo	lumes	1,98 ×3
Purge Volui	me:	7,5	SHAL		Free Produc	t Thickness:		all how	= Pùrge Vol	ume	5.64
Water H	leight Multi	oliers (gal)	1-inch	= 0.041	2-inch	= 0.162	4-incl	n = 0.653	1 gallon = 3	3.785 liters	•
					PUI	RGING DATA	\				
Purge Meth	iod:	DERIS	THUTIC		Pump Intake	Depth:	4.5'	BELOW !	NATER	c	omments
Sampling M	lethod:		FLOW		Tubing Type	:	DEDIC	MED TER	LON		
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH +/-0.1	Temp (°C) +/-0.5° C	Cond (μS/cm) +/-5%	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
			+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria					
1220	1,8%	1,88	8,42	0,15	6.07	11.27	248	1,55	91,2	2.83	AC
1232	1,88	3.76	8.22	11	6.12	11.84	254	2.24	95,6	0.52	AC
1248	1.88	5.64	8.11	/:	6.10	11.72	255	1.08	82.3	0.51	AC
1256	1,88	7,5	6,09	11	6.09	11.79	256	099	G1,7	0.47	AC
											·
		Clari	ty: VC = v	ery cloudy,		SC = slightly IPLING DATA		= almost clea	r, C = clear		
Samp	le ID:	PZ-10	1	Sampling I	Flow Rate	0.15	a	Analytical La	boratory:	E	SC
Sample		1300			th to Water:	7,8		Did Well Dev			ES
# Contain		Preserv			is/Method	Field Fi		Filter		MS/MSD	Duplicate ID
2 × 12	AG			PC		yes	(no)	gam.			
				1		yes	no				
						yes	no				
						yes	no				
						yes	no				
						yes	no				1
					C	OMMENTS		L			
		_									

				44	T	ORING DA	A SHEET		1	T ,	10-
b.					Well I.D.	MW-15			Job Number	1843-	00/12
A P	Ash Cre	ek Assoc Geolechnical Consul	iates, Inc		Client:	DEQ			Date:	04/27/	11
<b>F</b> 6	nvironmental and (	Geotechnical Consul	tanis		Project:				Sampler:	MW	
					Weather:	CLOUDY	(60'5)		Time In/Out:	1310/	
					<u> </u>	ELL DATA				*	<u></u>
Well Depth:		15'			Well Diamet	er:	2'	,	Water Heigl	ht	11,97
Depth to Wa	ater:	3,0	<u> </u>		Screened In	terval:	9,5-1	4-5	x Multiplier		0,162
Water Colui	mn Length:				Depth to Fre	e Product:	emission.	^	x Casing Vo	lumes	1.94
Purge Volur	ne:	6,0	GAL		Free Produc	t Thickness:		etos-	= Purge Vol	ume	×3
Water H	leight Multip	pliers (gal)	1-inch	= 0.041	2-inch	= 0.162	4-incl	n = 0.653	1 gallon = 3	3.785 liters	5,82
		<b>-</b>			PUI	RGING DATA					
Purge Meth	od:	PERIS	TALTIC	PUMP	Pump Intake	Depth:	2,5'	BELOW	WATER		Comments
Sampling M	ethod:		1-Frow		Tubing Type	:	PEDIO	ATED T	EFLON		
Time	Volume Purged (liters)	Cumulative Volume Purged	DTW (btc)	Purge Rate (L/min)	pН	Temp (°C)	Cond (μS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
	`	(liters)			+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria
1335	1.94	1.94	4,50	0.16	7,01	12,98	129.7	0,22	129,1	9,89	C
1345	1.94	3,88	4,59	"	6,99	13.69	1,318	0,15	109,4	1,44	C
1355	1,94	5,82	4.60	#	6.99	13.70	1,323	0,14	99,4	1.37	C
-											-
·								:			
, , , , , , , , , , , , , , , , , , ,											
											*
		Clar	ity: VC = ve	ery cloudy,		SC = slightly IPLING DAT/		= almost clea	r, C = clear	<u> </u>	
Sampl	e ID:	MM-1	5	Sampling	Flow Rate	0,16		Analytical La	boratory:	Į	5 <u>′</u>
Sample		1400			oth to Water:	4,51		Did Well Dev			NO
# Contain		Preser			is/Method	Field Fi	Itered		Size	MS/MSD	Duplicate ID
ZXIL		Market School		75	CP	yes	(no)		1867 - 1864 .	the section	gEQ*** registiv
	,			-		yes	no				
						yes	no				
						yes	no				
		_				yes	no				
··						yes	no		•		
	I				C	OMMENTS		<u> </u>		1	

							IA SHEE				
					Well I.D.	WW-II	9		Job Number	18413	00/12
	Ash Cree	ek Associ	iates Inc	•	Client:	DEQ			Date:	04/2	
Er Er	vironmental and (	ek Associ Geotechnical Consult	iants	••	Project:	TAYLOR	- WME	ER2	Sampler:	mw	
					Weather:	CLOUPY	(605)		Time In/Out:		
					V	VELL DATA	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				
Well Depth:		19:30	-		Well Diamet	er:	2	, W	Water Heigl	ht	16.8
Depth to Wa	ater:	2.70	<i>'</i>		Screened In	terval:	6.5-	17.5	x Multiplier	46	0.162
Water Colur	nn Length:				Depth to Fre	e Product:	***	ent garne	x Casing Vo	lumes	\$ 2,7 ×3
Purge Volur	ne:	,	SCAL		Free Produc	t Thickness:	<i>س</i> نت ب	New Comment	= Purge Vol	ume	8,0
Water H	leight Multi		1 '	= 0.041	2-inch	= 0.162	4-incl	n = 0.653	1 gallon = 3	3.785 liters	
					PU	RGING DATA	\				
Purge Meth	od:	PERIST,	ALTIC I	PUMP	Pump Intake	Depth:	2' BE	LOW NA	TER		Comments
Sampling M	ethod:	200,000	V-FLOW		Tubing Type	:	DEDIC	ATED TE	Flori		
Time	Volume Purged (liters)	Cúmulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	рН	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
		(illeis)			+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria
1430	27	2.7	3,71'	0.16	5.91	11.20	301	0.29	-11.6	4,77	<u></u>
1445	2.7	5,4	3,83	ξş	6.37	11:28	377	0.18	-21.0	1.65	C
1500	2.7	8,0	371'	81	6.40	11.41	401	0,17	-29,8	1,61	<u>C</u>
			_								
								,			
				-							
* ~						,					
									,	,	
		Clar	itv: VC = v	erv cloudv.	Cl = Cloudy,	SC = slightly	cloudy. AC	= almost clea	r. C = clear		
						IPLING DAT				,	· .
Sampl	e ID:	MW-1	15	Sampling	Flow Rate	0.16	·	Analytical La	boratory:	E	5C
Sample	Time:	1505	•	Final Der	oth to Water:	2.9-	<u> [                                   </u>	Did Well Dev	vater?		No
# Containe	ers/Type	Preserv	vative	Analys	is/Method	Field F	iltered	Filter	Size	MS/MSD	Duplicate ID
2416	84	the the		PC	P	yes	(no)	****	to Marine		man in
						yes	no				**
						yes	no				
						yes	no			,	
7						yes	no				,
			***************************************			yes	no				
						OMMENTS		*			

				44	CLL MONI	OKING DA	IA SHEE				4
					Well I.D.	MW-25	5		Job Number	1843	-00 MZ
<u> </u>	Ach Cre	ek Associ	iates Inc	•	Client:	DEQ			Date:	04/5	1/11
En	vironmental and (	ek Assoc Geolechnical Consul	tants	**	Project:	TAYLOR	LUMBE	TR.	Sampler:	M	-
					Weather:	CLOUPY/LIGHTRAIN/605			Time In/Out:	1520	/
-	·					ELL DATA					
Well Depth:		19,3	*	ě	Well Diamet	er:	2'	ŧ	Water Heigl	nt	13,22
Depth to Wa		6,08			Screened In	terval:	7,1-1	7,1	x Multiplier		0.167
Water Colur	nn Length:	13.2			Depth to Fre			i de	x Casing Vo	lumes	2.14
Purge Volun		6,5			Free Produc	t Thickness:	ور ختر	93.	= Purge Vol		6,42
	eight Multi		ľ	= 0.041		= 0.162	4-íncl	n = 0.653	1 gallon = 3		
	<u> </u>			-	PUI	RGING DATA	\			· · · · · · · · · · · · · · · · · · ·	
Purge Metho	od:	PERIST	ALTIC I	PVMP	Pump Intake	Depth:	2'BE	LOW WA	TER		Comments
Sampling M			-FLOW		Tubing Type	:		CATE P T			
Time	Volume Purged (liters)	Cumulative Volume Purged		Purge Rate (L/min)	рН	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
-		(liters)		,,	+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria
1535	2.14	2,14	7,28	0.15	6,99	11.41	1,240	0,29	64,7	3,65	C
1550	2,14	4,28	7.50	u	6.97	11,59	1,231	0.19	60.1	3,29	<b>C</b>
1605	2,14	6.42	7,55	11	6,96	11,64	1,227	0,18	59,0	3.16	C
	2							œ.			
											-
								<b>44.</b>			
		Clar	rity: VC = v	ery cloudy,	CI = Cloudy,	SC = slightly.  IPLING DATA		= almost clea	ar, C = clear		
Sampl	e ID·	NN-	25S	Sampling		0,15		Analytical La	horatory.	E	<u> </u>
Sample		1610			oth to Water:	6,4		Did Well Dev		N	
# Containe		Preser			sis/Method	رم Field F			r Size	MS/MSD	Duplicate ID
2 × L	A6	Preser	vauve	Analys		yes yes	(no)		. ~	INIOUNION	Duplicate ID
211	rin				A.	yes	no			3	
						yes	no				Wi
						yes	no				
						yes	no				
							no			<b> </b>	
						yes				1	

					Well I.D.	PW-0			Job Number:	: 1843	-CO/TZ
A.	Ach Cre	ek Associ	atec Inc		Client:	DEQ			Date:	04/2	7/11
₹6	nvironmental and	ek Associ Gootechnical Consult	ans		Project:	TAYLOR	WMBE	RGWM	Sampler:	m	
		•			Weather:	overcast cloudy (50%)			Time In/Out:		
					N	/ELL DATA					
Well Depth:		NUEL	1024		Well Diamet	er:	ME	Thous	Water Heigh	nt	
Depth to Wa	ater:	MAEN	-pwd		Screened In	terval:	<u> </u>		x Multiplier		
Water Colu	mn Length:				Depth to Fre	e Product:			x Casing Vo	lumes	
Purge Volur	me:				Free Produc	t Thickness:			= Purge Vol	ume	
Water H	leight Multi	pliers (gal)	1-inch	= 0.041	2-inch	= 0.162	4-incl	h = 0.653	1 gallon = 3	3.785 liters	
		-			PUI	RGING DATA	\				
Purge Meth	od:	IN MEN	L PUMP	)	Pump Intake	Depth:		MKHOW	N	c	Comments
Sampling M	ethod:	LOWF	200		Tubing Type	:	M	ETAL PIP	124		
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pН	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
		(1.5.5)			+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria
1704				~0.25	6.28	11.50	285	4,43	238.7	6.1	C
1707			general general	E g	6.26	11,48	279	4,21	235.6	53	C
1710			plan person	1,	6,25	11.47	274	4.05	-6232,9		C
										,	
	,										
		Clori		on doudy	Cl = Cloudy	SC = aliabtly	cloudy AC	= almost clea	r C = door		
		Clan	ity. VC = V	ery Gloddy,		IPLING DAT		- allilost Gea	i, C - Clear		
Sampl	le ID:	RW-01		Sampling	Flow Rate	0,25	>	Analytical La	boratory:	September 1	56
Sample		1715			th to Water:			Did Well Dev	vater?	f	<i>'</i>
# Contain		Preserv	/ative		is/Method	Field F	iltered		Size	MS/MSD	Duplicate ID
2x1L		Non		PC		yes	(no)	in the second	p		
	1				***************************************	yes	no		·		
						yes	no				
						yes	no				
						yes	no				
						yes	no				
						OMMENTS		•			
NOTE:	PUPGE						LOW E	3E FORCE	LOWE	RING.	PURGE
PATE	AND	COLLE	CTINA	PARA	METER						

	<del></del>										
					с	OMMENTS	110	<u> </u>			
						yes yes	no no				
					w.4	yes	no				
	******					yes	no			,	*
	*					yes	no				
2×16	Aq					yes	(no)	,	htte: hyn		AND THE PARTY OF T
# Contain	ers/Type	Preser	vative	Analys	is/Method	Field F		Filter	Size	MS/MSD	Duplicate ID
Sample	Time:	174	6	Final Dep	oth to Water:	10,0	1	Did Well Dew	vater?	<u>^</u>	J0
Samp	le ID:	My-	105	Sampling	Flow Rate	0.11		Analytical Lal	boratory:	E	L
		Olai	,. 🕶 - ٧	., sioudy,		IPLING DATA		ioot dida	, O 0.0ai		
		Clar	ity: VC = v	ery cloudy	Cl = Cloudy	SC = slightly	cloudy AC	= almost clea	r C = clear		
								W <sub>1. The</sub>			
		_							•		
		4									
				· · · · · · · · · · · · · · · · · · ·							
1738	0.33	1.33	0.17	1,	6,48	10.01	215	1.38	239,5	93.2	·/
1735	0.33	1.0	10.14	1,	6,49	10,06	216	1,45	239,4	95.6	
1732	0.33	0.66	10.05		6,50	10,07	217	1.65	238,7	98,4	
1729	0,33	0,33	9,93	0.11	6,55	10.10	221	2,29	236,4	115	CI/TAN
			200		+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria
Time	Volume Purged (liters)	Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pН	Temp (°C)	Cond (μS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
Sampling M			ow-Fia	<u>ა</u>	Tubing Type	: 	DEDIC	ATED TEF	LON		
Purge Meth	od:	PERIST	AUTIC	Pump	Pump Intake	Depth:	2'60	LOW WA	TER		Comments
Wateri	leight Maith	oliera (gar)	1 -mon	- 0.041	<u> </u>	RGING DATA	<u> </u>	1 - 0.000	1 gallott = 3	1.700 iiters	
Purge Volu	me: leight Multi <sub>l</sub>	oliere (nal)	1-inch	= 0.041	Free Produc	t Thickness: = 0.162	4-inch	n = 0.653	= Purge Vol		0,95
Water Colu		1.9	<u> </u>		Depth to Fre		_		x Casing Vo		0.\$2 ×3
Depth to W	ater:	9,5			Screened In		4.5	9.5	x Multiplier		- 公死 0,16
Well Depth		11.5			Well Diamet	er:	2		Water Heigh	nt	1.97
					N	ELL DATA			T		
					Weather:	/	505/60%		Time In/Out:		
<b>₽</b> /E	Ash Creation and and and and and and and and and an	ek Associ Geolechnical Consult	iates, Inc		Project:		TAYLOR WMBER		Sampler:	MW	
J.	~				Client:	DER			Date:	04/2	7/1.1

					Well I.D.	MW-2	45		Job Number	1843.	00/12
A	Ash Cre	ek Associ	iates Inc		Client:	DER			Date:	04/27	///
7	Environmental and (	ek Associ Geolechnical Consult	ants	••	Project:	TAYLOR.	LUMBET	Roman .	Sampler:	MW '	
					Weather: PAIN (505)			Time In/Out:			
				ą.	М	ÆLL DATA					
Well Depth	<b>:</b>	17.	2'		Well Diamet	er:	2	11	Water Heigh	nt	4,26
Depth to W	/ater:	125	74		Screened In	terval:	<b>%5</b> -	13.5	x Multiplier		6.162
Water Colu	ımn Length:	4	26		Depth to Fre	e Product:	_		x Casing Vo	lumes	0.7 ×3
Purge Volu	ıme:	3.0	GAL		Free Produc	t Thickness:	_	******	= Purge Vol	ume	2.1
Water I	Height Multi	oliers (gal)	1-inch	= 0.041	2-inch	= 0.162	4-incl	n = 0.653	1 gallon = 3	.785 liters	
					PUI	RGING DATA	<b>\</b> #				
Purge Meth	nod:	PERIST	ALTIC	pump	Pump Intake	Depth:	2,5	BELOW	WATER		Comments
Sampling N	/lethod:		-FLOW		Tubing Type	:	DEDIC	ATED TE	FLOW		
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	рН	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	< Stabilization Criteria
1815	0.7	0.7	13,72	0,14	6,86	9.95	355	1.70	137.0	9,03	STAN
1820	0.7	1,4	14,07	1,	6,33	9,83	<b>%</b> 73	1.77	172,3	2,73	*
1825	0.7	2,1	1424	ł,	6.35	9,75	276	0.81	183,5	1,49	<i>j</i> *
1830	0.7	2,8	14.31	1,	6.41	9.71	281	0.74	187,2	1.35	6-9
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	g8	Olas	it \/C		Cl = Claudu		alaudu AC	= almost clea		i	
		Clai	ity. VC – V	ery cloudy,		IPLING DATA		– amost dea	ir, C – Gear		
Samp	ole ID:	MW-Z	IJS	Sampling	Flow Rate	0,14		Analytical La	boratory:	E	<b>35</b> C
	e Time:	183			oth to Water:	14.10	7	Did Well Dev			No
	ners/Type	Preserv			is/Method	Field Fi			Size	MS/MSD	Duplicate ID
2 x 1L				1 .	CP	yes	no				
			Ø.			yes	no				
						yes	no				
			V. V.			yes	no ®	3			
		·			*****	yes	no				
		1	*			yes	no				
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# Groundwater Monitoring Work Plan Former Taylor Lumber Site Sheridan, Oregon

Prepared for: Oregon Department of Environmental Quality

April 22, 2011 1843-00





# Groundwater Monitoring Work Plan Former Taylor Lumber Site Sheridan, Oregon

Prepared for: Oregon Department of Environmental Quality

Stephence Boss

April 22, 2011 1843-00

Stephanie Bosze, R.G. Project Geologist, Ash Creek Associates

EXPIRES: DEC. 31, 2011

Herb Clough, P.E. Principal Engineer, Ash Creek Associates

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### 1.0 Introduction

This Groundwater Monitoring Work Plan presents the scope of work for groundwater monitoring activities at the former Taylor Lumber and Treating (TLT) Superfund Site located at 22125 SW Rock Creek Road in Yamhill County, Sheridan, Oregon (Site; Figure 1). This Work Plan was prepared for the Oregon Department of Environmental Quality (DEQ) under Task 2 of Task Order No. 57-08-28. This Work Plan covers two annual monitoring events to be conducted in April 2011 and April 2012. The specific scope of work is the same for each event.

#### 1.1 Background

The Site is a wood treating facility that was operated by TLT from 1946 until 2001, when TLT filed for bankruptcy. Pacific Wood Preserving of Oregon (PWPO) entered into a Prospective Purchaser Agreement with the U.S. Environmental Protection Agency (EPA) and purchased the wood treatment portion of the facility. PWPO began operations at the Site in 2002 and is currently treating wood using copper- and borate-based solutions.

A Record of Decision (ROD) for the Site was signed on September 30, 2005 (EPA, 2005). In accordance with the ROD, contaminated soils have been removed from the Site. However, contaminated soils and groundwater remain within the treatment plant area at the Site, enclosed by a soil-bentonite barrier wall. A low-permeability asphalt cap has been placed over the entire area enclosed by the barrier wall, which impedes the infiltration of stormwater into the groundwater located within the barrier wall. Four groundwater extraction wells have been installed within the barrier wall to stimulate an inward hydraulic gradient and prevent water from rising above the cap (EPA, 2010). The ROD identifies pentachlorophenol (PCP) as the contaminant of concern (COC) in Site groundwater (EPA, 2005).

#### 1.2 Objective

The primary objective of the groundwater monitoring program is to confirm that PCP impacted groundwater is not migrating beyond the barrier wall to the Yamhill River to the south or across Rock Creek Road to residential wells.

### 1.3 Scope of Work

In March 2010, the EPA prepared a Long-Term Groundwater Monitoring and Reporting Plan (EPA Work Plan) for the Site (EPA, 2010). The plan outlined a groundwater monitoring program for the Site including field sampling procedures, quality assurance/quality control (QA/QC) evaluation, sampling handling, and documentation procedures. This Work Plan incorporates the major components of the EPA Work Plan.

The following scope of work, as excerpted from the EPA Work Plan, will accomplish the primary project objective as described in Section 1.2:

- Groundwater samples will be collected for PCP analysis from 19 monitoring wells located outside the barrier wall.
- 2) Groundwater samples will be collected for PCP analysis from residential wells RW-01 and RW-02.
- 3) Water quality parameters will be measured prior to sampling to determine water stability during purging and to qualify the representativeness of the samples.
- 4) Water levels will be measured in each of the above-referenced monitoring wells as well as in extraction wells PW-01 through PW-04, located within the barrier wall.
- 5) For health and safety purposes, organic vapors will be measured in the well headspace prior to monitoring and sampling activities.

These activities are discussed in further detail within this Work Plan. Table 1 lists the groundwater and residential wells that will be gauged and sampled as part of the Site monitoring program. The location of the monitoring, extraction, and residential wells included in the monitoring program are shown on Figure 2.

# 2.0 Groundwater Monitoring Activities

The groundwater monitoring program will include preparatory activities, collection of groundwater elevation measurements, and collection of groundwater samples for chemical analysis.

### 2.1 Preparatory Activities

Site Health and Safety Plan. A Site-specific health and safety plan (HASP) has been prepared for the proposed activities. Appendix A includes a copy of the HASP. The HASP was prepared in general accordance with the Occupational Safety and Health Act (OSHA) and the Oregon Administrative Rules (OAR). A copy of the HASP will be maintained on-site during the field activities.

**Property Access.** PWPO will be contacted a minimum of one week prior to each field event. Prior to entering the site, field staff will also check in at the PWPO main office. The main office is located at 22125 Rock Creek Road, with the primary entrance located off Highway 18B.

**Residential Notifications.** One monitoring well (MW-9S) and two residential water wells (RW-01 and RW-02) are located off-site, as shown on Figure 2. The owners of these properties will be notified a minimum of one week prior to sampling. Contact information for the residents is provided in the EPA Work Plan (EPA, 2010).

#### 2.2 Documentation of Well Conditions

Prior to sampling, Site conditions will be recorded including temperature, precipitation, wind direction, and any other factors that could affect sample quality. The well monuments will be inspected for signs of damage, and will be noted accordingly in the field notes. The current well locks will be cut off with a bolt cutter and replaced with new locks that utilize a common key. The DEQ project manager and key project personnel will be provided with a copy of the well key.

Prior to sampling, the headspace around each well will be screened for organic vapors using a photoionization detector (PID). Headspace concentrations will be documented in the field notes and any volatiles will be allowed to dissipate before sampling.

#### 2.3 Groundwater Elevation Measurements

Groundwater elevation measurements will be collected in accordance with the EPA Work Plan (EPA, 2010). Wells in which water levels will be measured are listed in Table 1. It is possible there will be a difference in air pressure between the air in the casing and barometric pressure at the time of collecting well measurements. Since such a differential pressure could affect water level results, the well lids and caps will be opened for at least five minutes before making measurements so that the air pressure has adequate time to equilibrate. Water level measurements will be measured with an electronic water level probe and recorded on the appropriate field data sheet with an accuracy of  $\pm$  0.01 foot.

### 2.4 Groundwater Sampling

Groundwater samples will be collected from the wells listed in Table 1.

Well Purging. Groundwater will be purged before sampling using dedicated Teflon tubing and a peristaltic pump. Field parameters, including temperature, pH, dissolved oxygen, oxidation-reduction potential, specific conductivity, and turbidity will be collected during the purging process using a flow-through cell. Detailed groundwater sampling procedures are described in the sampling and analysis plan (SAP; Appendix B).

**Well Sampling.** Groundwater sampling will be conducted in accordance with Ash Creek's standard operating procedures (SOPs) which are included in the SAP (Appendix B). Where the SOPs differ from the EPA Work Plan, procedures are typically deferred to those outlined in the EPA Work Plan, and are denoted accordingly in the SAP.

Purging and Sampling of Residential Wells. The locations of the two off-site residential wells are shown on Figure 2. Well RW-01 is located to the west of the Site and will be accessed from the faucet at the pump house that is facing Highway 18. Well RW-02 is located three houses east of Rock Creek Road on

Highway 18. The well is located at the northwest corner of the house. The specific location of the RW-02 and type of sampling port present (i.e., borehole, tap, etc.) will be verified by the property owner.

Water taps will be opened and allowed to run for approximately 10 minutes to clear the system (including a pressure equalizing tank, if present) of residual water in the piping. Following the system purge, a sample will be collected from the tap for measurement of field parameters. The tap will be allowed to run for another 3 minutes before collecting another sample for the measurement of field parameters (pH, electrical conductivity, temperature). This procedure will be repeated until field parameters stabilized to within 10 percent of the previous measurements for three successive measurements. Following completion of "purging" procedures as described above, the groundwater sample will be collected directly from the tap. Sample containers will be provided by the laboratory ready for sample collection, including preservative.

Procedures for labeling and storing the samples are summarized in the SAP (Appendix B).

#### 2.5 Handling of Investigation-Derived Waste

Investigation-derived waste (IDW) will consist of purge water and decontamination water. IDW will be temporarily placed in buckets or drums and will be transported to and disposed of in the drain located to the north of the stormwater treatment system (Figure 2). The Site operations manager will direct field staff to the location of the drain. At a minimum, buckets will be emptied into the drain prior to the end of each field day. Disposable items, such as gloves, paper towels, etc., will be placed in plastic bags after use and deposited in trash receptacles for disposal.

### 3.0 Analytical Program

Groundwater samples collected from the monitoring wells and residential water wells during both monitoring events will be analyzed for PCP by EPA Method 8270 SIM. Additional information on the analytical program, including sample handling procedures, required analytical reporting limits, preservation requirements, and sample hold times, are summarized in the SAP (Appendix B).

### 4.0 Quality Assurance and Quality Control

QA/QC procedures will be used throughout this project. The SAP in Appendix B includes the QA plan for this project. This plan includes sampling and custody procedures, QA sampling analyses (such as analysis of duplicates), detection limit goals, laboratory QC, and QA reporting. Groundwater sampling will be conducted in accordance with the QA/QC requirements outlined in the EPA Work Plan (EPA, 2010).

# 5.0 Annual Reporting

Following each annual monitoring event, a groundwater monitoring report will be prepared and submitted to the DEQ. The quarterly monitoring report will include the following components:

- Summary of field events;
- Summary of problems encountered or deviations from monitoring program;
- Summary table with validated analytical results;
- Summary table with water level measurements;
- Groundwater elevation contour maps; and
- Analytical laboratory testing program and documentation (including a QA review).

The 2011 annual monitoring report will initially be prepared as a draft for review by the DEQ. Upon receipt of DEQ's comments, Ash Creek will issue the report in final form. The 2012 report will incorporate DEQ's comments on the 2011 report, and will be submitted only in final form.

### 6.0 References

U.S. Environmental Protection Agency (EPA), 2005. *Final Record of Decision Taylor Lumber and Treating Superfund Site, Sheridan, Oregon.* September 30, 2005.

EPA, 2010. Long-term Groundwater Monitoring and Reporting Plan. Taylor Lumber and Treating Superfund Site. March, 2010.

Table 1
Monitoring Program
Taylor Lumber and Treating

Well I.D.	Wells to be Sampled	Water Level Measurments*
Outside Barrier Wall		
MW-1S	Χ	Х
MW-6S	Χ	Χ
MW-6D	Χ	Χ
MW-9S	Χ	Χ
MW-12S	Χ	Χ
MW-13S	Χ	Χ
MW-15S	Χ	Χ
MW-16S	Χ	Χ
MW-19S	Χ	Χ
MW-20S	Χ	Χ
MW-25S	Χ	Χ
MW-103S	Χ	Χ
PZ-101	Χ	Χ
PZ-102	Χ	Χ
PZ-105	Χ	Χ
South of Highway 18B		
MW-9S	Χ	Χ
MW-10S	Χ	Χ
MW-24S	Χ	Χ
East of Rock Creek Road		
MW-11S	Χ	Х
Residences**		
RW-01	Χ	
RW-02	Χ	
Extraction Wells Inside Barr	rier Wall	
PW-1		Χ
PW-02		Χ
PW-03		Χ
PW-04		Χ

- 1. PCP = pentachlorophenol.
- 2. \* = Indicates wells in which water level measurements will be collected.
- 3. \*\* = Residential addresses and contact information are as follows:

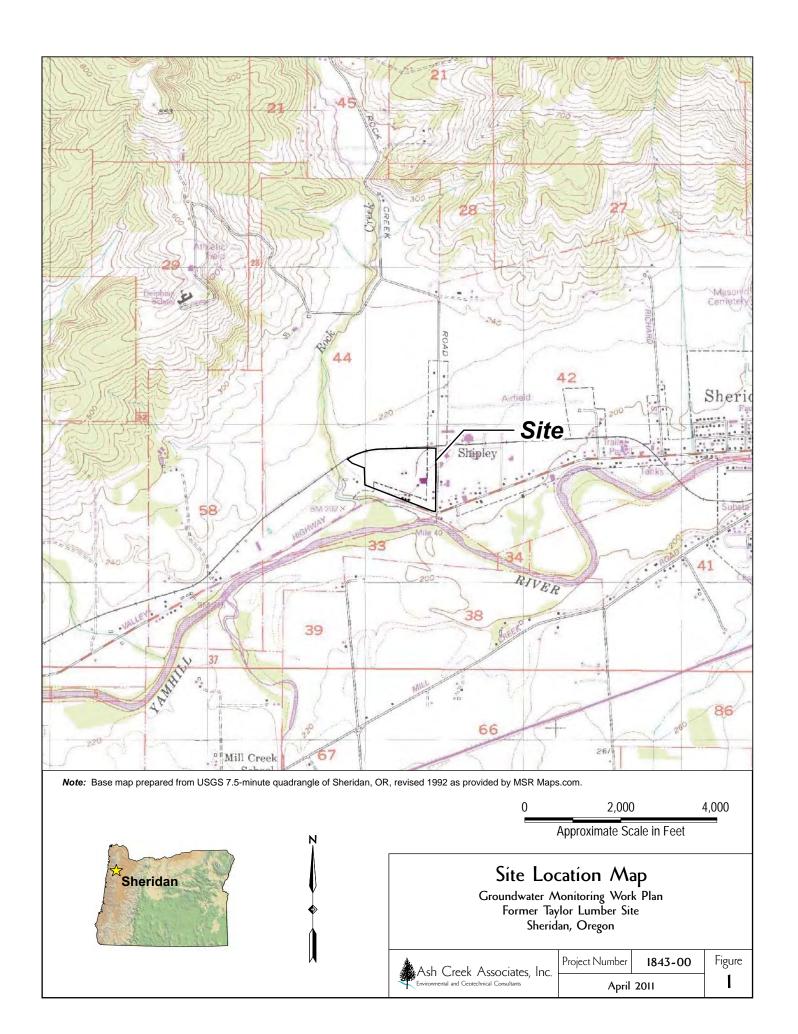
RW- 01: 31100 West Valley Highway - Residential property owned by Bob Bowman - 503-843-2530

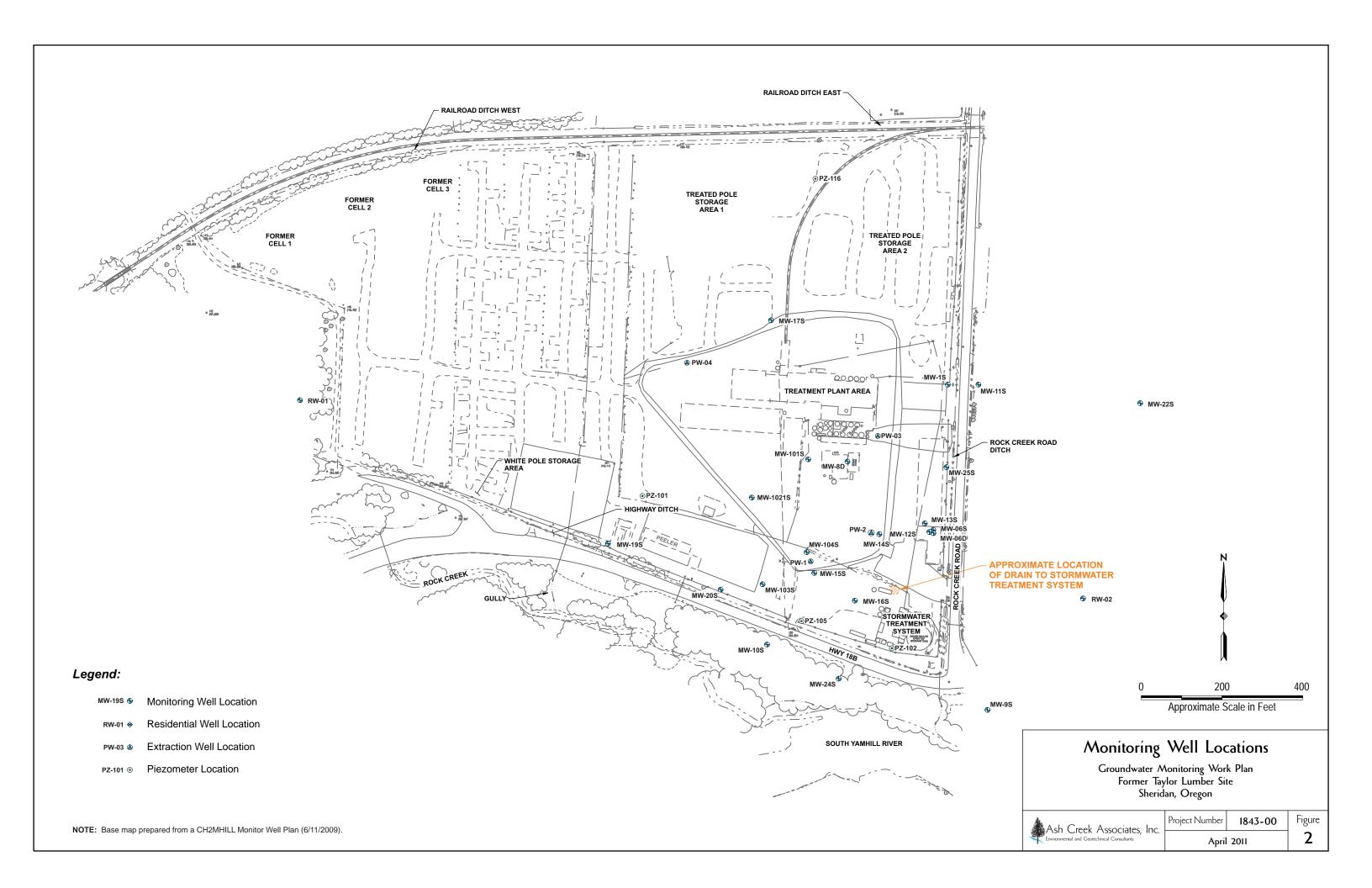
RW-02: 1523 W. Main Street - Ash Creek to verify residential contact information.

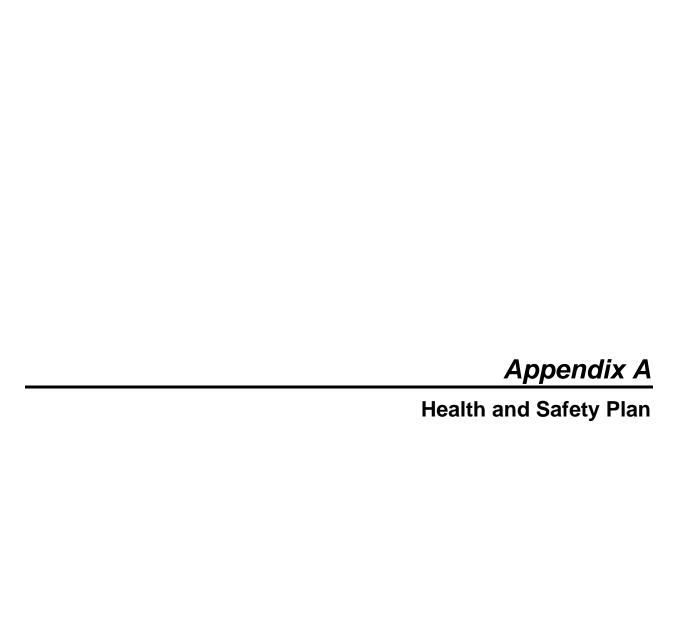
(Brown house; 3rd house from Rock Creek Road)

MW-9S: Residential property owned by Robert and Patricia Harris - 503-472-8017

MW-11S: Northwest Gazebo - George Gabriel owner - 503-843-0024







### **Record of Health and Safety Communication**

PROJECT NAME: DEQ - Form	mer Taylor Lumber Project		
SITE CONTAMINANTS: Pent	achlorophenol		
PPE REQUIREMENTS (check  Safety Glasses Safety Boots Hard Hat Gloves:	all that apply):	✓ Clothing : Safety Vest  Respiratory Protection :  Other :	
and the General Health and Sa indicate that they have read the	reviewed a copy of the Summary Informatety Plan (and attachments). By signing plan, including all referenced informate which are detailed for this project.	ing below, these personnel	
PRINTED NAME	SIGNATURE	COMPANY	DATE

# 1.0 Introduction

This Health and Safety Plan (HASP) includes both Site-specific information (including Site-specific activities, health hazards, route to hospital, and toxicity information) and the general Ash Creek Associates (Ash Creek) Health and Safety Plan (General HASP).

#### 1.1 Emergency Contact Summary

SITE LOCATION	22125 SW Rock Creek Road, Sheridan, OR
NEAREST HOSPITAL	West Valley Hospital 525 Southeast Washington Street Dallas, OR 97338-2834 (See HASP-1) Telephone(503) 842-4444
EMERGENCY RESPONDERS	Police Department 9-1-1 Fire Department 9-1-1 Ambulance 9-1-1
EMERGENCY CONTACTS	Ash Creek Associates       (503) 924-4704         National Response Center       (800) 424-8802         Oregon Accident Response System       (800) 452-0311         Environmental Response Team       (503) 283-1150         Poison Control Center       (800) 222-1222         Chemtrec       (800) 424-9300

In the event of an emergency, call for help as soon as possible. Give the following information:

- WHERE the emergency is (use cross-streets or landmarks)
- PHONE NUMBER you are calling from
- WHAT HAPPENED (type of injury)
- HOW MANY persons need help
- WHAT is being done for the victim(s)
- YOU HANG UP LAST (let the person you called hang up first)

### 2.0 Corporate Health and Safety Plan

The Ash Creek General HASP, together with the included Site-specific information, cover each of the 11 required plan elements as specified in OSHA 1910.120, and meets all applicable regulatory requirements. The reader is advised to thoroughly review the entire plan.

# 3.0 Site-Specific Health and Safety Plan

#### 3.1 Site Location and Description

LOCATION: 22125 SW Rock Creek Road, Sheridan, OR

LAND USE OF AREA SURROUNDING FACILITY: Industrial

### 3.2 Site Activity Summary

SITE ACTIVITIES: Groundwater sampling.

PROPOSED DATE OF ACTIVITY: April 2011 and April 2012.

POTENTIAL SITE CONTAMINANTS: Pentachlorophenol.

POTENTIAL ROUTES OF ENTRY: Potential routes of entry include skin contact with soil and groundwater, incidental ingestion of soil and groundwater, and inhalation of dust and volatiles.

PROTECTIVE MEASURES: Engineering controls, safety glasses, safety boots, hard hat, gloves, protective clothing, and respirators (as necessary).

MONITORING EQUIPMENT: Photoionization detector (PID) with 10.2 eV Lamp; olfactory indications.

#### 3.3 Chain of Command

The chain of command for health and safety in this project involves the following individuals:

CORPORATE HEALTH AND SAFETY MANAGER: Mike Stevens, P.E.

PROJECT MANAGER: Stephanie L. Bosze, R.G..

PROJECT HEALTH AND SAFETY OFFICER: Stephanie L. Bosze, R.G.

FIELD HEALTH AND SAFETY MANAGER: Ian Maguire

### 3.4 Hazard Analysis and Applicable Safety Procedures

The following work tasks will be accomplished:

1) Groundwater sampling

The associated hazards for the above activities that may be anticipated during this project are discussed in detail below.

Appendix A – Site-Specific Health and Safety Plan

3.4.1 Groundwater Monitoring.

Any sampling will occur under the assumption the media is contaminated and appropriate personnel

protection will be required.

3.4.2 Air Monitoring and Action Levels

PID Monitoring. Air monitoring will be conducted with a PID with 10.2 eV lamp, or equivalent, to measure

organic vapor concentration during Site work activities (the 10.2 eV lamp is specified to allow detection of

halogenated compounds). Background PID measurements will be taken prior to the start of groundwater monitoring to quantify levels associated with the ambient air space in the vicinity of the Site. Subsequent

PID measurements will be taken when well caps are initially removed for sampling. If PID measurements

are elevated relative to the previously measured background levels, then sampling will be deferred to allow

vapors to dissipate. PID measurements shall be consistent with background prior to sampling activities.

Olfactory. If olfactory senses detect any unfamiliar odor, work will stop until an assessment can be made to

determine whether the need exists to upgrade protective measures.

3.5 Chemicals of Concern

Based on Site information gathered to date, the following chemical may be present at the Site:

Pentachlorophenol (PCP)

3.5.1 Toxicity Information

Pertinent toxicological properties of the chemicals of concern are discussed below. This information

generally covers potential toxic effects which may occur from relatively significant acute and/or chronic

exposures, and is not meant to indicate that such effects will occur from the planned Site activities. In general, the chemicals which may be encountered at the Site are not expected to be present at

concentrations that could produce significant exposures. The types of planned work activities should also

limit potential exposures at the Site. Furthermore, appropriate protective and monitoring equipment will be

used, as discussed below, to further minimize any exposures that might occur.

Standards for occupational exposures to these chemicals are included where available. Site exposures are

generally expected to be of short duration and well below the level of any of these exposure limits. These

standards are presented below.

PEL Permissible Exposure Limit (Occupational Safety and Health Act [OSHA])

REL Recommended Exposure Limit (NIOSH)

### Appendix A - Site-Specific Health and Safety Plan

IDLH Immediately Dangerous to Life and Health (NIOSH)

TWA Time-Weighted Average (exposure limit for any eight-hour work shift of a 40-hour work week)

STEL Short-Term Exposure Limit (expressed as a 15-minute, time-weighted average, and not to be exceeded at any time during a work day)

C Ceiling Exposure Limit (not to be exceeded at any time during a work day)

The table below lists the exposure limits recommended by OSHA and NIOSH for each of the listed compounds. Respiratory protection will be required if measured concentrations in air exceed the minimum of these exposure limits.

#### **Recommended Exposure Limits**

Compound	OSHA PEL	NIOSH REL	IDLH	TWA
	[ppm]	[ppm]	[ppm]	[ppm]
Pentachlorophenol	0.05	0.05	0.25	0.05

*Note:* ppm = Parts per million.

Pentachlorophenol. Pentachlorophenol is a synthetic substance, made from other chemicals, and does not occur naturally in the environment. It is made by only one company in the United States. At one time, it was one of the most widely used biocides in the United States. Since 1984, the purchase and use of pentachlorophenol has been restricted to certified applicators. It is no longer available to the general public. Application of pentachlorophenol in the home as an herbicide and pesticide accounted for only 3% of its consumption in the 1970s. Before use restrictions, pentachlorophenol was widely used as a wood preservative. It is now used industrially as a wood preservative for power line poles, cross arms, fence posts, and the like. Pure pentachlorophenol exists as colorless crystals. It has a very sharp characteristic phenolic smell when hot but very little odor at room temperature. Most people can begin to smell pentachlorophenol in water at less than 12 parts pentachlorophenol per million parts of water (ppm). Impure pentachlorophenol (the form usually found at hazardous waste sites) is dark gray to brown and exists as dust, beads, or flakes. Pentachlorophenol can be found in two forms: pentachlorophenol itself or as the sodium salt of pentachlorophenol. The sodium salt dissolves easily in water, but pentachlorophenol does not. These two forms have some different physical properties, but are expected to have similar toxic effects. Humans are generally exposed to technical-grade pentachlorophenol, which usually contains such toxic impurities as polychlorinated dibenzo- p-dioxins and dibenzofurans.

The physical and chemical properties of the compound suggest that not much will evaporate into the atmosphere and that most of it will move with water and generally stick to soil particles. Movement of pentachlorophenol in soils depends on the soil's acidity. The compound can be present in fish or other species used for food, as demonstrated by the ongoing food monitoring program of the Food and Drug

### Appendix A - Site-Specific Health and Safety Plan

Administration (FDA). In air, soil, and surface water, pentachlorophenol lasts for hours to days. The compound is broken down in soil and surface water by microorganisms, and in air and surface water by sunlight, to other compounds, some of which may be harmful to humans.

Pentachlorophenol easily enters your body through your lungs when you breathe it, through your digestive tract after you eat contaminated food or water, or through your skin. The most significant ways are through breathing and skin contact. After a short exposure period, pentachlorophenol quickly leaves your body (studies in humans show that half the amount taken in is usually gone within 33 hours). It does not seem to build up in the body very much. Most of the pentachlorophenol taken into your body does not break down, but instead leaves in your urine. Much smaller amounts leave in your feces. Only a small amount escapes through your exhaled air. Some of the pentachlorophenol taken into your body is joined with other natural chemicals that make the pentachlorophenol less harmful. The combined product can then leave your body more easily.

Some, but not all, of the harmful effects associated with exposure to pentachlorophenol are due to impurities present in commercial pentachlorophenol. Short exposures to large amounts of pentachlorophenol in the workplace or through the misuse of products that contain it can cause harmful effects on the liver, kidneys, blood, lungs, nervous system, immune system, and gastrointestinal tract. Contact with pentachlorophenol (particularly in the form of a hot vapor) can irritate the skin, eyes, and mouth. If large enough amounts enter the body, heat is produced by the cells in the body, causing an increase in body temperature. The body temperature can increase to dangerous levels, causing injury to various organs and tissues and even death. This effect is the result of exposure to pentachlorophenol itself and not the impurities. The lengths of exposure and the levels that cause harmful effects have not been well defined. Long-term exposure to low levels such as those that occur in the workplace can cause damage to the liver, kidneys, blood, and nervous system. Studies in animals also suggest that the endocrine system and immune system can also be damaged following long-term exposure to low levels of pentachlorophenol. All of these effects get worse as the level of exposure increases. Decreases in the number of newborn animals, harmful effects on reproductive organs of the mothers, decreases in the number of successful pregnancies, and increases in the length of pregnancy were observed in animals exposed to pentachlorophenol while they were pregnant. Harmful effects on reproductive organs of the females were also seen in animals exposed to pentachlorophenol while they were not pregnant. We do not know if pentachlorophenol produces all of the same effects in humans that it causes in animals.

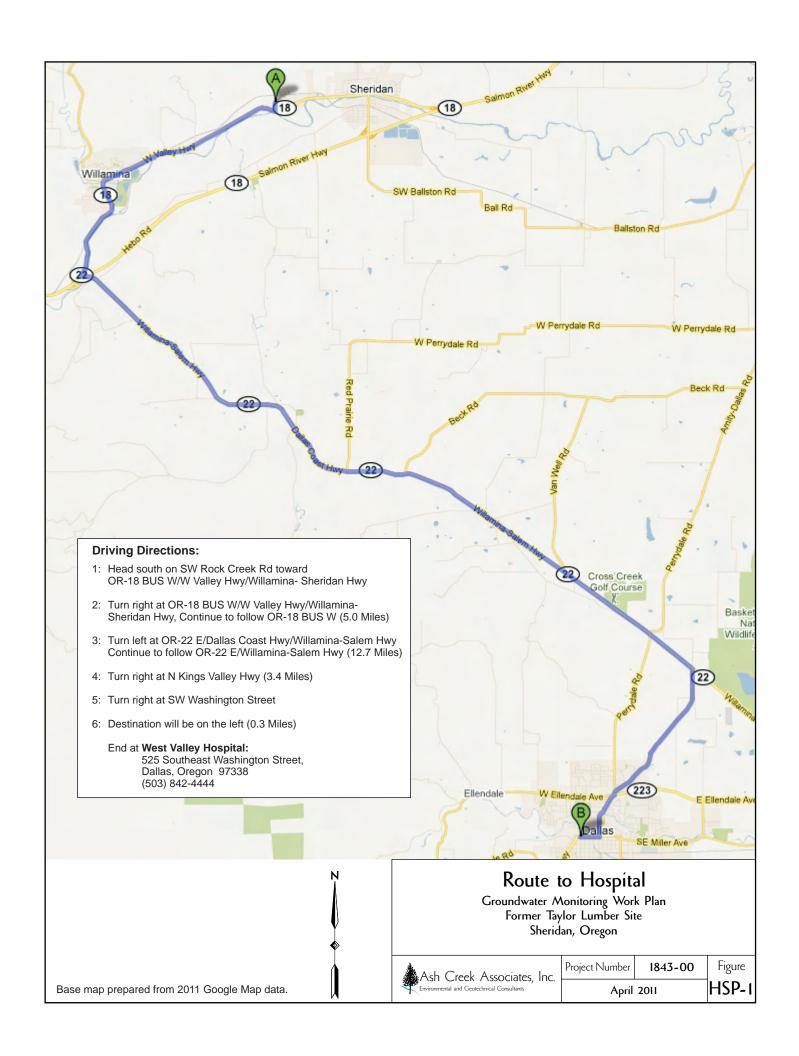
An increased risk of cancer has been shown in some laboratory animals given large amounts of pentachlorophenol orally for a long time. There is weak evidence that pentachlorophenol causes cancer in humans. The International Agency for Research on Cancer (IARC) has determined that pentachlorophenol is possibly carcinogenic to humans, and the EPA has classified pentachlorophenol as a probable human carcinogen.

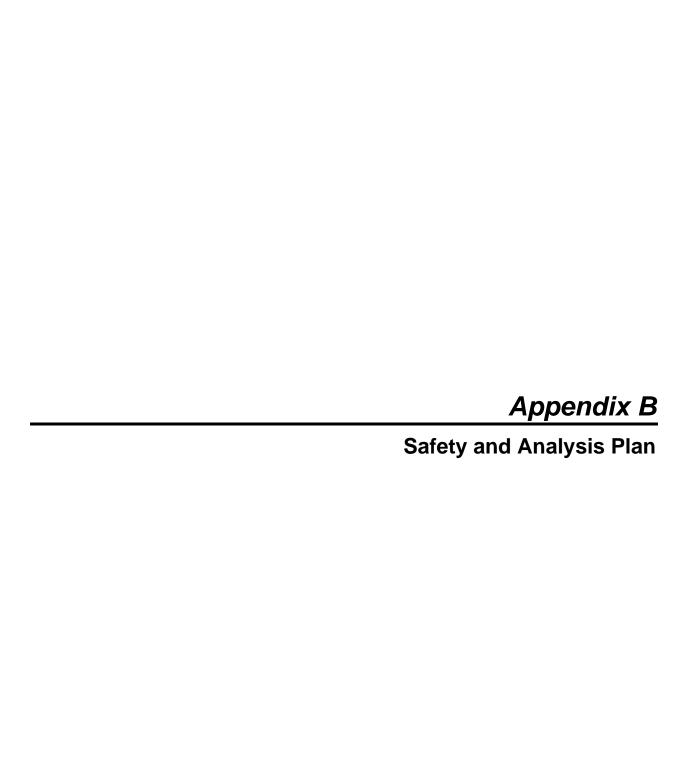
### Appendix A – Site-Specific Health and Safety Plan

The federal government has set regulatory standards and guidelines to protect workers from the possible health effects of pentachlorophenol in air. OSHA has set a legally enforceable limit of 0.5 milligrams per cubic meter (mg/m3) in workroom air to protect workers during an 8-hour shift over a 40-hour work week.

Pentachlorophenol and its products can be measured in the blood, urine, and tissues of exposed persons. Because urine and blood samples are easily collected, testing these fluids is the best way to find out whether a person has been exposed. Neither test is usually available at a doctor's office because both require the use of special equipment. Although these tests can prove that a person has been exposed, they cannot be used to tell how severe any health effects might be. Because pentachlorophenol leaves the body fairly quickly, these tests are best for finding exposures that occurred within the last several days. Exposure at hazardous waste sites usually includes exposure to other organic compounds, such as hexachlorobenzene, that could break down into pentachlorophenol. On the other hand, measurement of blood and urine levels for pentachlorophenol and its products in groups of exposed people and non-exposed people is a good way to tell whether exposure to pentachlorophenol or members of the same chemical family occurred.

The federal government has also set regulatory standards and guidelines to protect the public from the possible health effects of pentachlorophenol in drinking water. EPA decided that the amount in the drinking water should not be more than 0.022 milligram per liter (mg/L) and that any release of more than 10 pounds to the environment should be reported. For short-term exposures, EPA decided that drinking water levels should not be more than 1.0 mg/L for 1 day or 0.3 mg/L for 10 days. EPA also estimates that for an average-weight adult, exposure to 0.03 mg/kg/day will probably not cause any non-cancer health effects. EPA is now working to measure the levels of pentachlorophenol found at abandoned waste sites.





### 1.0 Introduction

This appendix presents the field and sampling procedures and the analytical testing program that will be used to complete the field and analytical work for this project. Quality assurance and quality control (QA/QC) procedures are also discussed in this appendix.

# 2.0 Field and Sampling Procedures

The scope of work for the Site includes two annual groundwater monitoring events. The field and sampling procedures include the following:

- Preparatory activities;
- Well headspace measurements with a photoionization detector (PID);
- Groundwater elevation measurements;
- Collection of groundwater samples;
- Sample management (i.e., containers, storage, and shipment);
- Decontamination procedures; and
- Handling of investigation-derived waste (IDW).

### 2.1 Preparatory Activities

Site Health and Safety Plan. A Site-specific health and safety plan (HASP) has been prepared for the proposed activities. Appendix A of the Work Plan includes a copy of the HASP. The HASP was prepared in general accordance with the Occupational Safety and Health Act (OSHA) and the Oregon Administrative Rules (OAR). A copy of the HASP will be maintained on site during the field activities.

**Property Access.** PWPO will be contacted a minimum of one week prior to each field event. Prior to entering the site, field staff will also check in at the PWPO main office. The main office is located at 22125 Rock Creek Road, with the primary entrance located off Highway 18B.

Residential Notifications. One monitoring well (MW-9S) and two residential water wells (RW-01 and RW-02) are located off site as shown on Figure 2. The owners of these properties will be notified a minimum of one week prior to sampling. Contact information for the residents is provided in the EPA Work Plan (EPA, 2010).

### Appendix B - Sampling and Analysis Plan

#### 2.2 PID Headspace Measurements

Prior to sampling, the headspace around each well will be screened for organic vapors using a photoionization detector (PID). Headspace concentrations will be documented in the field notes and any volatiles will be allowed to dissipate before sampling.

#### 2.3 Groundwater Elevation Measurements

Water level measurements will be collected in general accordance with Ash Creek's Standard Operating Procedure (SOP) 2.16 for water level measurement procedures, provided in this appendix. The referenced SOP is in agreement with water level measurement procedures outlined in the EPA Work Plan (EPA, 2010). Water level measurements will be collected from site wells at the beginning of the monitoring event. Well covers and well caps will be opened and the water level will be allowed to equilibrate under atmospheric conditions for at least five minutes before water level measurements are taken. Water level measurements will be recorded in the field notes.

#### 2.4 Collection of Groundwater Samples

Ash Creek will collect groundwater samples from site monitoring wells and off-site water wells annually in accordance with low-flow sampling techniques described in SOP 2.5, included in this appendix. The referenced SOP is in agreement with groundwater sampling procedures outlined in the EPA Work Plan (EPA, 2010). Groundwater samples will be collected using dedicated tubing and a peristaltic pump. A minimum of three casing volumes will be purged prior to sampling. During purging, field parameters will be collected using a flow-through-cell after each purge volume. Purging will be considered complete when water quality parameters including pH, electrical conductivity, and temperature stabilize within 10 percent of the previous measurement and turbidity readings are less than 5 to 15 nephelometric turbidity units (NTU). Sample containers will be provided by the laboratory ready for sample collection.

When sampling residential wells with water taps, the taps will be opened and allowed to run for approximately 10 minutes to clear the system (including a pressure equalizing tank, if present) of residual water in the piping. Following the system purge, a sample will be collected from the tap for measurement of field parameters. The tap will be allowed to run for another three minutes before collecting another sample for the measurement of field parameters (pH, electrical conductivity, temperature). This procedure will be repeated until field parameters stabilized to within 10 percent of the previous measurements for three successive measurements. Following completion of "purging" procedures as described above, the groundwater sample will be collected directly from the tap. Sample containers will be provided by the laboratory ready for sample collection.

Appendix B - Sampling and Analysis Plan

2.5 Sample Management

Containers. Clean sample containers will be provided by the analytical laboratory ready for sample

collection (the container requirements are listed in Table B-1).

Labeling Requirements. A sample label will be affixed to each sample container before sample collection.

All containers will be marked with the project name, sample I.D. (unique I.D. for each sample location), date

and time stamp (military time) of collection, sampler's initials, and the type of analysis.

Sample Storage and Shipment. Soil samples will be stored in a cooler chilled with ice or blue ice to

4 degrees Celsius (°C). The cooler lid will be sealed with chain-of-custody seals. If necessary, the samples

will be sent via overnight courier to the analytical laboratory for chemical analysis. Otherwise, Ash Creek will transport the containers to the laboratory. Chain of custody will be maintained and documented at

all times.

2.6 Decontamination Procedures

Personnel Decontamination. Personnel decontamination procedures depend on the level of protection

specified for a given activity. The HASP (Appendix A) identifies the appropriate level of protection for the type of work and expected field conditions associated with this project. In general, clothing and other

protective equipment can be removed from the investigation area. Field personnel should thoroughly wash

their hands and faces at the end of each day and before taking any work breaks.

Sampling Equipment Decontamination. To prevent cross-contamination between sampling events,

clean, dedicated sampling equipment (e.g., groundwater sampling tubing) will be used for each sampling

event and will be discarded after use. Cleaning of non-disposable items (i.e., field meter and water level probe) will consist of washing in a detergent (Alconox®) solution, rinsing with tap water, followed by a

de-ionized (DI) water rinse. Decontamination water will be collected and handled in accordance with

Section 2.9.

2.7 Handling of Investigation-Derived Waste

IDW will consist of purge water and decontamination water. IDW will be temporarily placed in five-gallon

buckets and covered with a lid. Throughout the sampling event, the buckets will be emptied into the facility

drain located at the southeast corner of the site for treatment at the on-site stormwater treatment system

(Figure 2 of Work Plan). At a minimum, buckets will be emptied into the drain by the end of each field day.

Disposable items, such as sample tubing, gloves, protective overalls (e.g., Tyvek®), paper towels, etc., will

be placed in plastic bags after use and deposited in trash receptacles for disposal.

# 3.0 Analytical Testing Program

Analytical laboratory QA/QC procedures are discussed in Section 5 of this appendix.

Table B-2 lists the proposed analytical methods, detection limit goals, and lists the anticipated number of groundwater samples. Samples will be collected and handled using methods described in Section 2 of this appendix. Specific container and storage requirements for samples will be discussed with the analytical laboratory prior to sample collection and will be in accordance with the container requirements presented in Table B-2.

The contaminant of concern (COC) for this project is pentachlorophenol; groundwater samples will be analyzed for pentachlorophenol by EPA Method 8270 SIM.

# 4.0 Field Quality Assurance Program

Field Chain-of-Custody. A chain-of-custody form will used to record possession of a sample and to document analyses requested. Each time the sample bottles or samples are transferred between individuals, both the sender and receiver sign and date the chain-of-custody form. When a sample shipment is transported to the laboratory, a copy of the chain-of-custody form is included in the transport container (e.g., ice chest).

Field Duplicate Samples. Two field duplicate groundwater samples will be collected during each annual sampling event. Field duplicates will consist of two samples collected sequentially from one sample location to assess data variability. The field duplicates will be analyzed by the same analytical methods used for primary samples. Relative percent differences (RPDs) for field duplicates will be calculated to assess the data precision and accuracy and potential variability caused by sample handling.

Trip Blank. Trip blanks will not be necessary for this investigation as samples will not be analyzed for volatile constituents.

Field Blanks and Equipment Rinse Blanks. Field blanks and equipment rinse blanks are not necessary because the sample tubing is dedicated to each well.

## **Quality Assurance and Quality Control**

Laboratory QA/QC. The laboratory maintains an internal quality assurance program as documented in its laboratory quality assurance manual. The laboratory uses a combination of data quality indicators, including laboratory-specific detection limits, instrument calibration, calibration verification, blanks, surrogate recoveries, duplicates, matrix spike (MS) recoveries, matrix spike duplicate (MSD) recoveries, blank spike recoveries, and blank spike duplicate recoveries, to evaluate the analytical results. The laboratory also uses data quality goals for individual chemicals or groups of chemicals based on the long-term performance of

### Appendix B - Sampling and Analysis Plan

the test methods. QA/QC requirements are also detailed in the EPA Work Plan (EPA, 2010). Parameters for determining sensitivity, accuracy, and precision for pentachlorophenol are provided in the EPA Work Plan (Table 4, EPA, 2010).

**Field QA/QC.** Field duplicates and MS/MSD samples will be submitted to the laboratory as part of the field QA/QC program. The sample, sample duplicate, and the MS/MSD samples will be taken from the same sample location, if possible. A summary of QC samples are provided in Table B-3.

**Instrument Calibration.** Field instruments, including the water level probe and PID, will be calibrated daily prior to use. PID calibration procedures are summarized in SOP 2.1, provided in this appendix. Instruments will otherwise be calibrated in accordance with the manufacturer's specifications. Additional instructions for field equipment inspection, maintenance, and decontamination are provided in Section 3.0 of the EPA Work Plan (EPA, 2010).

### 6.0 Documentation

During groundwater monitoring activities at the site, field activities will be documented in the field notebook or on field data sheets. The following information will be documented in the field notebook:

- Daily time of arrival and departure from site
- Project personnel on site
- Equipment calibration records
- Health and safety monitoring records
- Summary of equipment present and equipment used
- Documentation of site visitors, their associations, and purpose of visit

The following information will be recorded on the field data sheets:

- Instrument calibration data
- Water levels
- Purge volumes
- Field measurements
- Sampling information
- IDW volumes
- Shipping information

Table B-1 - Analytical Methods - Sample Container and Preservation Requirements Former Taylor Lumber Project, DEQ Task Order No. 57-08-28 Sheridan, Oregon

Groundwater Analysis	Method	Container	Preservative	Storage Temperature	Holding Time
Pentachlorophenol	EPA 8270 SIM	(2) 1-L Amber Glass per Sample	N/A	4°C	7 days

#### Notes:

- 1. EPA = U.S. Environmental Protection Agency.
- 2. °C = Degrees Celsius.
- 3. L = Liter.
- 4. N/A = not applicable.
- 5. SIM = Low level analysis.

Table B-2 - Analytical Methods, Anticipated Sample Number, and Reporting Limit Goals Former Taylor Lumber Project, DEQ Task Order No. 57-08-28 Sheridan, Oregon

Analyte	Analytical Method	Anticipated Number of Samples (per event)	Reporting Limit Goal (µg/L)
Pentalchlorophenol	EPA 8270 SIM*	21	1

#### Notes:

- 1.  $\mu$ g/L = Micrograms per liter.
- 2. EPA = U.S. Environmental Protection Agency.
- 3. Chain-of-Custody should denote analysis as "SV8270 Acid(PCP Low Level Only)"

Table B-3 - Summary of Quality Control Samples Former Taylor Lumber Project, DEQ Task Order No. 57-08-28 Sheridan, Oregon

	Parameter	Method	Field Duplicates	MS/MSD	Field Blanks	Equipment Blanks	Trip Blanks
Ī	Pentachlorophenol *	EPA 8270 SIM	2	1/1	0	0	0

#### Notes:

- 1. EPA = Environmental Protection Agency
- 2. MS/MSD = Matrix Spike/Matrix Spike Duplicate.
- 3. \* = Where possible, a sample, sample duplicate, and MS/MSD sample should be taken from the same location.
- 4. For MS/MSD samples, one 1-L Amber bottle is required. If sufficient volume is available, collect 2 1-L amber bottles to ensure against potential breakage.
- 5. For field duplicates, sample volume collected should be doubled (4-1 L Ambers per duplicate well).



## Appendix C – Laboratory Analytical Report and Data Quality Review

This appendix documents the results of a quality assurance/quality control (QA/QC) review of the analytical data for samples collected in April 2011 for the Oregon Department of Environmental Quality (DEQ) Taylor Lumber and Treating Superfund site. Groundwater samples were analyzed by ESC Lab Sciences (ESC) of Mt Juliet, Tennessee. Copies of the analytical laboratory reports are included in this appendix.

The QA review included examination and validation of the laboratory summary reports, including:

- Analytical methods;
- Detection limits;
- Sample holding times;
- Surrogates, spikes, and blanks; and
- Sample replicates and other field quality assurance samples.

The QA review did not include a review of raw data.

#### 1.0 Analytical Methods

Groundwater samples were analyzed for pentachlorophenol (PCP) by EPA Method 8270 (Low Level, PCP only).

#### 2.0 Quality Assurance Review

The following criteria were evaluated in the standard data quality review process:

- Holding times;
- Method blanks;
- Surrogate r ecoveries;
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries;
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries; and
- Laboratory duplicate and relative percent difference (RPD).

Based on this review, data are considered to be of acceptable quality and are suitable for their intended purposes.

**Holding Times.** Samples were analyzed within the holding times specified.

# Appendix C – Laboratory Analytical Report and Data Quality Review

**Method Blanks.** A method – or laboratory – blank is a sample prepared in the laboratory along with the actual samples and analyzed for the same parameters at the same time. It is used to assess if detected contaminants may be the result of contamination of the samples in the laboratory. PCP was not detected in the laboratory method blanks.

Surrogate Recovery. Surrogates are organic compounds that are similar in chemical composition to the analytes of interest and spiked into environmental and batch QC samples prior to sample preparation and analysis. Surrogate recoveries for environmental samples are used to evaluate matrix interference on a sample-specific basis. For the analysis, three surrogates were analyzed. Surrogate recoveries for two out of three analytes were below acceptance criteria in several samples; therefore, the lab flagged the data with a J2 qualifier. Per the method, the surrogates were reanalyzed and recoveries were again below the acceptance criteria, indicating a sample matrix effect. For sample MW-13S, there was not adequate sample volume to reanalyze the sample and therefore the surrogates were flagged with an L2 qualifier.

The laboratory stated that of the three surrogates analyzed, the compound most representative of PCP (the lightest surrogate) met acceptance criteria in the initial surrogate analysis and the re-analysis, indicating that PCP recovery was likely within acceptable criteria. Furthermore, the other analysis spike samples (LCS and MS) were within acceptance criteria, verifying the accuracy of the analysis.

The surrogate recovery limits for sample MW-25S could not be evaluated as the surrogates were diluted out as part of the sample dilution process. As stated above, the LCS and MS recoveries associated with this batch indicate that the accuracy of the analysis is acceptable.

Laboratory Control Sample and Laboratory Control Sample Duplicate. LCS/LCSD are analyzed by the laboratory to assess the accuracy of the analytical equipment. An LCS/LCSD sample is prepared from an analyte-free matrix that is then spiked with known levels of the constituents of interest (i.e., a standard). The concentrations are measured and the results are compared to the known spiked levels. This comparison is expressed as percent recovery. The RPD between the LCS and LCSD is calculated. The percent recovery for LCS and LCSD samples were within acceptable limits. The RPD between the LCS and LCSD were within the acceptance criteria.

Matrix Spike and Matrix Spike Duplicate Analyses. MS/MSD analysis involves two aliquots of an environmental sample that are spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. These analyses are used to assess the potential for matrix interference with recovery or detection of the constituents of interest and the accuracy of the determination. The RPD between the MS and MSD is calculated. An MS/MSD sample was collected from monitoring well MW-06S in accordance with the work plan, which indicated that the sample, sample duplicate, and MS/MSD samples all be collected from the same sample location. Percent recoveries of the MS/MSD analyses were within control limits for PCP. The RPD between the MS and MSD samples were within the acceptance criteria.

# Appendix C – Laboratory Analytical Report and Data Quality Review

**Field Duplicate**. A field duplicate is a second field sample collected from a selected sample location. Field duplicate samples serve as a check on laboratory quality as well as potential variability of the sample matrix. The field duplicate is analyzed and compared to the first sample to assess the precision of the analytical method. This comparison can be expressed by the RPD between the original and duplicate samples. The field duplicate samples were collected from well MW-6S and MW-16S. RPDs were below 10 percent and therefore within quality control limits.

**Reporting Limits.** Reporting limits, reported as reported detection limit (RDL) on the laboratory report, were not elevated in the project groundwater samples. PCP was detected in sample MW-11S at a concentration below the lowest calibration point for the analysis. The value is considered an estimate and is flagged in Table 1 with a "J" qualifier.

**Conclusion**. In conclusion, the QA objectives have been met, and the data are of sufficient quality for use in this project.



### **OREGON**

# **Environmental Laboratory Accreditation Program**



**NELAP Recognized** 

Environmental Science Corporation TN200002

12065 Lebanon Road Mt. Juliet,TN 37122

IS GRANTED APPROVAL BY ORELAP UNDER THE 2003 NELAC STANDARDS, TO PERFORM ANALYSES ON ENVIRONMENTAL SAMPLES IN MATRICES AS LISTED BELOW:

Non Potable Air Dripking Water Water

Solids and / Chem. Waste

Tissue

Chemistry

Chemistry

Chemistry

Chemistry

Toxicity Testing

AND AS RECORDED IN THE LIST OF APPROVED ANALYTES METHODS, ANALYTIC TECHNIQUES, AND PIELDS OF TESTING ISSUED CONCURRENTLY WITH THIS CERTIFICATE AND REVISED AS NECESSARY.

ACCREDITED STATUS DEPENDS ON SUCCESSFUL ONGOING PARTICIPATION IN THE PROGRAM AND CONTINUED COMPLIANCE WITH THE STANDARDS.

CUSTOMERS ARE URGED TO VERIFY THE LABORATORY'S CURRENT ACCREDITATION STATUS

Irene E. Ronning Ph.D.

Oregon State Public Health Laboratory

**ORELAP** Administrator

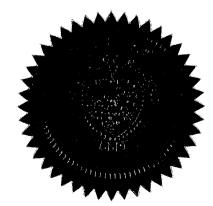
3150 NW. 229th Ave, Suite 100

Hillsboro, OR 97124

ISSUE DATE: 01/16/2011

EXPIRATION DATE: 01/15/2012

Certificate No: TN200002 - 008





## Oregon

#### **Environmental Laboratory Accreditation Program**

Department of Agriculture, Laboratory Division Department of Environmental Quality, Laboratory Division Department of Human Services, Public Health Laboratory



**NELAP** Recognized

#### **ORELAP Fields of Accreditation**

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**Environmental Science Corporation** 

12065 Lebanon Road

Mt. Juliet

TN 37122

**Issue Date:** 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

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Reference   Code   Description	
Reference   Gode   Description	
### Analyte Code	
## Analyte Code   Analyte   Analyte	
3780	
3780	
## 4926   Methan     1843   Nitroge     3895   Oxyge    EPA TO-15   10248803   Vocs collected in Canisters by GC/MS    Analyte Code   Analyte     5160   1,1,2-Trichloroethane     5110   1,1,2-Tetrachloroethane     5195   1,1,2-Trichloroethane     5165   1,1,2-Tric	
1843   Nitroga   Oxygen	
EPA TO-15  Analyte Code  Analyte  5160  1,1,1-Trichloroethane 5110  1,2,2-Tetrachloroethane 5195  1,1,2-Trichloroethane 5165  1,1,2-Trichloroethane 5165  1,1,2-Trichloroethane	
Analyte Code  5160 1,1,1-Trichloroethane 5110 1,1,2-Trichloroethane 5195 1,1,2-Trichloroethane 5165 1,1,2-Trichloroethane 5165 1,1,2-Trichloroethane	
Analyte Code  5160 1,1,1-Trichloroethane 5110 1,1,2-Trichloroethane 5195 1,1,2-Trichloroethane 5165 1,1,2-Trichloroethane 5165 1,1,2-Trichloroethane	. ,
5160 1,1-Trickloroethane 5110 1M,2,2-Tetrachloroethane 5195 1,12-Trickloroet,2,2-trifluoroethane (Freon 118); 5165 1,1,2-Trickloroethane	
5160 1,1-Trickloroethane 5110 1M,2,2-Tetrachloroethane 5195 1,12-Trickloroet,2,2-trifluoroethane (Freon 118); 5165 1,1,2-Trickloroethane	
5110 1,1,2,2-Tetrachloroethane 5195 1,1,2-Trichloro 1,2,2-trifluoroethane (Freon 113), 5165 1,1,2-Trichloroethane	
5195 1,1,2-Trichloro 1,2,2 (trifluoroethane (Freon 113); 5165 1,1,2-Trichloroethane	
5165 1,1,2 Trichloropthane	
4630 1.1-Dichernethanes	
4640 1,1-Dichloroethyleng	
5155 1,2,4-TrichloroDenzene	
5210 1,2,4-Trimethylbenzerie	
4585 1,2-Dibromoethane (EDB, Ethylene dibromide)	
4695 1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon-114)	
4610 1,2-Dichlorobenzene	
4635 1,2-Dichloroethane (Ethylene dichloride)	
4655 1,2-Dichloropropane	
5215 1,3,5-Trimethylbenzene	
9318 1,3-Butadiene 4615 1,3-Dichlorobenzene	
4620 1,4-Dichlorobenzene	
4735 1,4-Diotholobelizerie	
4836 1-Propene	
5220 2,2,4-Trimethylpentane	
4410 2-Butanone (Methyl ethyl ketone, MEK)	
4535 2-Chlorotoluene	
4860 2-Hexanone	
4542 4-Ethyltoluene	
4995 4-Methyl-2-pentanone (MIBK)	
4300 Acetaldehyde	
4315 Acetone	
4320 Acetonitrile	
4355 Allyl chloride (3-Chloropropene)	
4375 Benzene	
5635 Benzyl chloride	

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eference		Code	Description
EPA 150.1		10008409	pH - Electrometric Measurement
Analyte Code	Analyte		
1900	рН		
EPA 180.1 2		10011800	Turbidity - Nephelometric
Analyte Code	Analyte	And the second s	
2055	Turbidity	// R =	UISA
EPA 200.7 5	//	10014003	ICP - metals
Analyte Code	Analyte		
1000	Aluminum /		
1015	/Barium /		
1020	Beryllium		
1030 1035	Cadmium		
1035 1040	Calcium Chromium		
1055	Coppe		
1760	Handness (c	alc	
1070	Iron		
1085	Magnesium		
1090	Manganese	100	
1105	Nickel "		
1150	Silver		
1155 1190	Sodium		
	Zinc	Noorroo	W 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2
EPA 200.8 5.5		1,0014809	Metals by ICP MS
Analyte Code	Analyte"		
1010	Antimony Arsenic		0812
1015	Barium		
1020	Beryllium		
1030	Cadmium		
1040	Chromium		
1055	Copper		
1075	Lead		
1090	Manganese		
1105 1140	Nickel Selenium		
1150	Selenium Silver		
1165	Thallium		
1190	Zinc		
EPA 245.1 3		10036609	Mercury by Cold Vapor Atomic Absorption
Analyte Code	Analyte		
1095	Mercury		
EPA 300.0		10053006	lon chromatography - anions.
Analyte Code	Analyte		
1540	Bromide		
1570 1575	Chlorate		
15/5	Chloride		

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Analyte Co	de Analyte
7540	Endrin
7530	Endrin aldehyde
7535	Endrin ketone
7120	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)
7685	Heptachlor
7690	Heptachlor epoxide
6275	Hexachlorobenzene
6285	Hexachlorocyclopentadiene
7810	Methoxychlor
8045	Propachlor (Ramrod)
8250	Toxaphene (Chlorinated camphene)
8295	Trifluralin (Troflan)
PA 515.1 4	10087408 Chlorinated acids Liquid/Liquid and GC/ECD
Analyte Co	
8655	2,4,5-1
8545	2,4-D
8560	2,4-DB/
8555	Dalapon (* 1845)
8595	Dicamba
8605	Dicalitica  Dichloropreps (Dichlorprop)
8620	Dicha de propriede propriede propriede de la company de la
8650	Silvexical 4.5 ETP
PA 524.2 4	10089006 July Volatile Oliganic Compounds by purge and trap
7.021.2	GCMS
Analyte Co	de Analyte
5105	1,1,1,2\Tetrachloroethane
PA 524.2 4.1	10088809 Volatile Organic Compounds GC/MS Capillary
	Column
Analyte Co	de Analyte
5105	1,1,1,2\Tetrachloroethane
5160	1,1,1-Trichlordethane
5110	1,1,2,2-Tetrachloroethane
5165	1,1,2-Trichloroethane
4630	1,1-Dichloroethane
4640	1,1-Dichloroethylene
4670	1,1-Dichloropropene
5150	1,2,3-Trichlorobenzene
5180	1,2,3-Trichloropropane
5155	1,2,4-Trichlorobenzene
5210	1,2,4-Trimethylbenzene
4570	1,2-Dibromo-3-chloropropane (DBCP)
4585	1,2-Dibromoethane (EDB, Ethylene dibromide)
4610	1,2-Dichlorobenzene
4635	1,2-Dichloroethane (Ethylene dichloride)
4655	1,2-Dichloropropane
6800	1,3,5-Trichlorobenzene
5215	1,3,5-Trimethylbenzene
4615	1,3-Dichlorobenzene
	, , , , , , , , , , , , , , , , , , ,
4660 4630	1,3-Dichloropropane
4620	1,4-Dichlorobenzene
4665	2,2-Dichloropropane
4410	2-Butanone (Methyl ethyl ketone, MEK)
4535	2-Chlorotoluene
4860	2-Hexanone
4540 4910	4-Chlorotoluene

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EPA CODE: TN00003

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Analyte Code	Analyte		
2055	Turbidity		
SM 2150 B 20th ED		20043407	Odor by Threshold Odor Test
Analyte Code	Analyte		
1855	Odor		
SM 2320 B 20th ED		20045209	Alkalinity by Titration
Analyte Code	Analyte	The state of the s	
1505	Alkalinity as Ca	aCØ3	
SM 2340 B 20th ED		20046202	Hardness by calculation
Analyte Code	Analyte		
1750	Hardness /		
SM 2510 B 20th ED	1 //	20048208	Conductivity by Plobe
Analyte Code	Analyte		<u> </u>
1610	Conductivity		
SM 2540 C 20th ED		20050004	Total Dissolved Solids
Analyte Code	Analyte		All Parties Control of the Control o
1955	Residue filtera	biel(TD5) and	
SM 4110 B 20th ED		20076602	Amons by Ion Chromatography with Chemical Suppression of Eluent
Analyte Code	Analyte		<b>34 2 3 3 3 3 3 3 3 3 3 3</b>
1575	Öhloride		
1730 1810	Fluoride Nitrate as N		
1840	Nitrite as N		
1870	Orthophosphai		
2000	Sulfate	<u> </u>	
SM 4500-CI G 20th ED	2	20081203	Residual Chlorine by DPD Colorimetric
Accelerte Octob	A to . 4		Determination
Analyte Code	Analyte Total residual of	oblorino	
		<del></del>	
SM 4500-CN C 20th ED	2	20091605	Cyanide, Total After Distillation
Analyte Code	Analyte		
1635	Cyanide	<del></del>	
SM 4500-CN E 20th ED		20092404	Cyanide by Colorimetric Determination
OIVI TOUCTOIN L ZUIII LU	4	20002707	Gyanide by Coloninetic Determination
Analyte Code	Analyte		
1635	Cyanide		
1645	Total cyanide		
SM 4500-CN G 20th ED		20093203	Cyanide Amenable to Chlorination after Distillation
Analyte Code	Analyte		
1510	Amenable cyar	nide	

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EPA CODE: TN00003

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eference		Code	D	Description
ASTM D1067-92		30003806	A	cidity or Alkalinity of Water
Analyte C	ode Analyte			
1500	Acidity, as C	aCO3		
EPA 1000		10114600		athead Minnow Larval Survival and Growth,
Analyte C			CI	hronic (EPA 821/R-02/013)
3450	Tox, chronic	fw organism		
EPA 1002	/(	10115001		aphnid Survival and Reproduction, chronic PA 821/R-02/013)
Analyte C		<u> (</u>		
3450	yox, chronic	fw organism.		
EPA 1010	ada / nulis	10116606		ensky Martens Closed-Cup Method for etermining Ignitability
	ode Analyte Ignitability			
EPA 1010A	19118	102 <mark>3</mark> 4807		ensky-Maniens Closed-Cup Method for
Analyte C	ode Analyte Ignitabiliy		D. D.	eierminija o <mark>k</mark> nitability
EPA 1110		10118000	C	orgonizity oward Steel
Analyte C	ode Analyte Corrosivity			
 EPA 1110A		r/0235208	· G	orresivity Poward Steel
		77		
<b>Analyte C</b>				
	Corrosivity			
EPA 120.1		10006403	Co	onductance - Specific @ 25 C
Analyte C	ode Analyte			
1610	Conductivity			
EPA 130.1		10006801	На	ardness - Colorimetric, Automated EDTA
Analyte C	ode Analyte			
1750	Hardness			
EPA 1311		10118806	To	oxicity Characteristic Leaching Procedure
Analyte C	ode Analyte			
308	Extraction/Pr	eparation		
EPA 1312		10119003	Sy	ynthetic Precipitation Leaching Procedure
Analyte C	ode Analyte			
308	Extraction/Pr	eparation		

ORELAP ID: TN200002
EPA CODE: TN00003

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#### **Environmental Science Corporation**

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Issue Date: 01/16/2011

1 Expiration Data

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As of 01/16/2011 this list supercedes all previous lists for this certificate number.

Analyte Code	Analyte		
1075	Lead		
1085	Magnesium		
1090	Manganese		
1100	Molybdenum		
1105	Nickel		
1125	Potassium		
1140	Selenium		
1150	Silver		
1155	Sodium		
1165	Thallium	and the state of t	100 COM 100 CO
1175	Tin	200	
1180	Titanium	/ a = L	
		and the second second	
1185	Vanadium/		
1190	Zinc		
EPA 200.8 5.5	/:e-/	10014809	Metals by ICP MS
Analyte Code	/ Analyte		
1005	Antimony	proper la company de la compan	
1010	Arsenic		
1015	Barium		
1020	Beryllium		
1030	Cadmium		
1040	Chronium		
1055	Copper	100	
1075	Lead	The second second	
1090			
1100	Manganese Molybdenum	The state of the s	and the second of the second o
1105			
	Nickel		
1140	Selenium		
1150	Silver		
1165	Thallium		
1175	Tin		10 million
1180	Titanium		
1185	Vanadium 🧗		
1190	Zinc	Y / Lin	
EPA 2000 Fathead minnov	w Acute	10264809	Fathead Minnow, acute
MHSF 20°C	7 7 10010	TOZO TOOO Santa Managan Managa	T difford Williamovi, douto
Analyte Code	Analyte		
3455	Toxicity, acute,	fw organism	
TD 4 0000 0		10214605	
	ubia Acute	.02.1000	Cerodaphnia dubia, acute
20% DMW 20°C		.02 . 1000	Cerodaphnia dubia, acute
	Analyte		Cerodaphnia dubia, acute
20% DMW 20°C	Analyte	u & marine organism	Cerodaphnia dubia, acute
20% DMW 20°C <b>Analyte Code</b> 3440	Analyte Tox, acute, est	u & marine organism	
20% DMW 20°C <i>Analyte Code</i> 3440	Analyte Tox, acute, est		Dissolved Hexavalent Chromium by Ion
20% DMW 20°C	Analyte Tox, acute, est	u & marine organism	
20% DMW 20°C	Analyte Tox, acute, est  Analyte	u & marine organism	Dissolved Hexavalent Chromium by Ion
20% DMW 20°C Analyte Code 3440 EPA 218.6	Analyte Tox, acute, est	u & marine organism	Dissolved Hexavalent Chromium by Ion
20% DMW 20°C	Analyte Tox, acute, est  Analyte Chromium VI	u & marine organism	Dissolved Hexavalent Chromium by Ion Chromatography
20% DMW 20°C Analyte Code 3440 EPA 218.6 Analyte Code 1045 EPA 245.1 3	Analyte Tox, acute, est  Analyte Chromium VI	u & marine organism 10268403	Dissolved Hexavalent Chromium by Ion
20% DMW 20°C Analyte Code 3440  EPA 218.6  Analyte Code 1045  EPA 245.1 3  Analyte Code	Analyte Tox, acute, est  Analyte Chromium VI  Analyte	u & marine organism 10268403	Dissolved Hexavalent Chromium by Ion Chromatography
20% DMW 20°C Analyte Code 3440  EPA 218.6  Analyte Code 1045  EPA 245.1 3	Analyte Tox, acute, est  Analyte Chromium VI	u & marine organism 10268403	Dissolved Hexavalent Chromium by Ion Chromatography
20% DMW 20°C  Analyte Code  3440  EPA 218.6  Analyte Code  1045  EPA 245.1 3  Analyte Code  1095	Analyte Tox, acute, est  Analyte Chromium VI  Analyte Mercury	u & marine organism 10268403	Dissolved Hexavalent Chromium by Ion Chromatography  Mercury by Cold Vapor Atomic Absorption
20% DMW 20°C  Analyte Code  3440  EPA 218.6  Analyte Code  1045  EPA 245.1 3  Analyte Code  1095	Analyte Tox, acute, est  Analyte Chromium VI  Analyte Mercury	u & marine organism 10268403 10036609	Dissolved Hexavalent Chromium by Ion Chromatography  Mercury by Cold Vapor Atomic Absorption  Methods for the Determination of Inorganic
3440 EPA 218.6  Analyte Code 1045 EPA 245.1 3  Analyte Code	Analyte Tox, acute, est  Analyte Chromium VI  Analyte Mercury	u & marine organism 10268403 10036609	Dissolved Hexavalent Chromium by Ion Chromatography  Mercury by Cold Vapor Atomic Absorption

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EPA CODE: TN00003

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Customers. FLease ve	rify the current accreditation sta	naing with Orelap.
EPA 3520C	10139001	Continuous Liquid-liquid extraction
Analyte Code	e Analyte	
308	Extraction/Preparation	
EPA 353.2 2	10067604	Nitrate/Nitrite Nitrogen - Automated, Cadmium
Analyte Code	e Analyte	
1820 6484	Nitrate-nitrite Nitrocellulose	
EPA 376.1	10074204	Sulfide - Titrimetric, lodine.
		Tallinotino, redilite.
Analyte Code		
2005	Sulfide	
EPA 410.4 2	10077404	Chemical Oxygen Demand - Colorimetric,
Analyte Code	Analyte -	Automated:
1565	Chemical oxygen demand	
EPA 420.1	10079400	Phenolics Spectrophotometric, manual.
	Control of the Contro	
Analyte Code		
1905	Total anenolics	
EPA 420.4	10080203	Priendics Total Recoverable by Semi-
Analyte Code	Analyte	Automated Colorimetry
1905	Total phenolics	A Comment of the Comm
EPA 5030B	10153409	Purge and trap for aqueous samples
LI A 3030B	10,00400	is urge and trap for aqueous samples
Analyte Code	e Analyte	
308	Extraction/Preparation	
EPA 5030C	10284603	R Purge-and-Trap for Aqueous Samples
Analyte Code	e Analyte	
308	Extraction/Preparation	
EPA 6010B	10155609	ICP - AES
Analyte Code	Analyte	
1000	Aluminum	
1005	Antimony	
1010	Arsenic	
1015	Barium Baridium	
1020 1025	Beryllium Boron	
1030	Cadmium	
1035	Calcium	
1040	Chromium	
1050	Cobalt	
1055	Copper	
1070	Iron	
1075	Lead	
1080	Lithium	
1085	Magnesium	
1085 1090	Magnesium Manganese	

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#### **Environmental Science Corporation**

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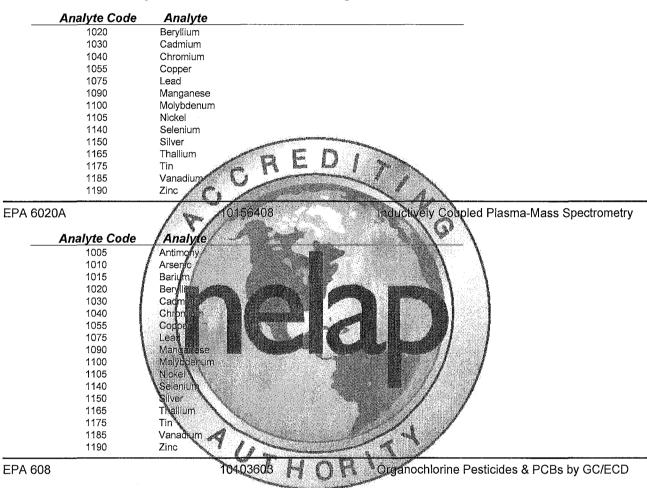
Issue Date: 01

01/16/2011

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As of 01/16/2011

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Analyte Code	Analyte
7355	4,4'-DDD
7360	4,4'-DDE
7365	4,4'-DDT
7025	Aldrin
7110	alpha-BHC (alpha-Hexachlorocyclohexane)
7240	alpha-Chlordane
8880	Aroclor-1016 (PCB-1016)
8885	Aroclor-1221 (PCB-1221)
8890	Aroclor-1232 (PCB-1232)
8895	Aroclor-1242 (PCB-1242)
8900	Aroclor-1248 (PCB-1248)
8905	Aroclor-1254 (PCB-1254)
8910	Aroclor-1260 (PCB-1260)
7115	beta-BHC (beta-Hexachlorocyclohexane)
7250	Chlordane (tech.)
7265	Chloroneb
7310	Chlorthalonil (Daconil)
7105	delta-BHC
7470	Dieldrin
7510	Endosulfan I
7515	Endosulfan II
7520	Endosulfan sulfate

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	Analyte Code	Analyte	
	8245	Tokuthion (Prothiophos)	
EPA 624		10107207	Volatile Organic Compounds by purge and trap
LI / \ 02-1		10101201	GC/MS
	Analyte Code	Analyte	
	5105	1,1,1,2-Tetrachloroethane	
	5160	1,1,1-Trichloroethane	
	5110	1,1,2,2-Tetrachloroethane	
	5195 5165	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	
	4630	1,1-Dichloroethane	
	4640	1,1-Dichloroethylene	
	4670	1,1-Dichloropropené	
	5150	1,2,3-Trichtörobenzene	
	5180	1,2,3-Trichioropropage	
	5182 5155	1.Z.3 Trimetrylbenzene	
	5210	1,2,4-Trichforobenzene 1,2,4-Trimethylbenzene	
	4570	1,2-Dibromo-3-chloropropane (DBCP):	
	4585	1,2-Dipromoethane (EDB Ethylene ribromide)	
	4610	1,2-Dichlorøbenzene	
	4635	1,2-Dichtorgethane (Ethylene dichtoride)	
	4655	1,2-Dichleropropane	
	5215	1,3,5-Triinethylbenzane	
	4615 4660	1,3-Diemoroben zene 1,3-Diemoroproprise	
	4620	1,4-Bish brobenzene	
	4735	1.4-Dioxane (1.4- Diethyleneoxide)	
	4665	2.2-Dichloropropane	
	4410	2-Butanonė (Methyl ethyl ketone, MEK) 👛 👙	
	4500	2-Chloroethyl vinyl ether	
	4535	2-Chlorotoluene	
	4860 5020	2-Hexanone 2-Nitropropane	
	4540	4-Chlorofoluene	
	4910	4-Isopropyltokiene (p-Cymene)	
	4995	4-Methyl-2-pentanone (MIBK)	
	4315	Acetone	
	4320	Acetonitrile	
	4325	Acrolein (Propenal)	
	4340 4355	Acrylonitrile Allyl chloride (3-Chloropropene)	
	4375	Benzene	
	4385	Bromobenzene	
	4390	Bromochloromethane	
	4395	Bromodichloromethane	
	4397	Bromoethane (Ethyl Bromide)	
	4400	Bromoform	
	4450 4455	Carbon disulfide Carbon tetrachloride	
	4475	Chlorobenzene	
	4575	Chlorodibromomethane	
	4485	Chloroethane (Ethyl chloride)	
	4505	Chloroform	
	4525	Chloroprene (2-Chloro-1,3-butadiene)	
	4645	cis-1,2-Dichloroethylene	
	4680 4600	cis-1,3-Dichloropropene cis-1,4-Dichloro-2-butene	
	4555	Cyclohexane	
	4560	Cyclohexanone	
	4595	Dibromomethane (Methylene bromide)	

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Analyte Code	Analyte
6835	2,4,5-Trichlorophenol
6840	2,4,6-Trichloropheno!
6000	2,4-Dichlorophenol
6130	2,4-Dimethylphenol
6175	2,4-Dinitrophenol
6185	2,4-Dinitrotoluene (2,4-DNT)
6190	2,6-Dinitrotoluene (2,6-DNT)
5795	2-Chloronaphthalene
5800	2-Chlorophenol
6360	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)
6385	2-Methylnaphthalene
6400	
	2-Methylphene (o-Cresol)
6430	2-Naphthylamine
6460	2-Nitroaniline
6490	2-Nitrophenol
5945	3,3-Dishlorobenzidine
6465	3-Nitroaniline
5540	4-Aminobiphenyl
5660	4-Bromophenyl phenyl ether
5700	4-Chloro-3-methylphenol
5745	4-Chforoaniline
5825	4-ChlorophenWebhenvietheri
6410	4-Metay(phenoli(ic)Cresci)
6470	4-Nitroamiline
6500	4-Nitrophenol
5500	Acenaminene
5505	Acenaphithylene
5510	Acetophenone
6700	alpha-Terpineol
5545	Aniline
5555	Anthracene
5595	Benzidine
5575	Benzo(a)anthracene
5575 5580	
	Benzo(a)pyrene
5590 5600	Benzo(g,h,i)perylene Benzo(k)fluoranthene
5600	
5585	Benzo[b]fluoranthene
5610	Benzoic acid
5760	bis(2-Chloroethoxy)methane
5765	bis(2-Chloroethyl) ether
5780	bis(2-Chloroisopropyl) ether
5670	Butyl benzyl phthalate
5680	Carbazole
5855	Chrysene
6065	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)
5895	Dibenz(a,h) anthracene
5905	Dibenzofuran
6070	Diethyl phthalate
6135	Dimethyl phthalate
5925	Di-n-butyl phthalate
6200	* *
	Di-n-octyl phthalate
7580	Famphur
6265	Fluoranthene
6270	Fluorene
6275	Hexachlorobenzene
4835	Hexachlorobutadiene
6285	Hexachlorocyclopentadiene
4840	Hexachloroethane
6290	Hexachlorophene
6295	Hexachloropropene
	1 lexacition opioperio

ORELAP ID: TN200002

EPA CODE: TN00003

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Customers. PLease verify the current accreditation standing with ORELAP.

EPA 8021B 10174808 Aromatic and Halogenated Volatiles by GC with PID and/or ECD Purge & Trap Analyte Code Analyte 4375 Benzene 4765 Ethylbenzene 5000 Methyl tert-butyl ether (MTBE) 5245 m-Xylene 5250 o-Xylene 5255 p-Xylene Toluene 5140 5260 Xylene (total) **EPA 8081A** 0178606 Organochlorine Pesticides by GC/ECD Analyte 4,4/DDD Analyte Code 7355 7360 44-DDE 7365 .4'-DD1 7005 Alachlo 7025 Aldrin 7110 alpha-BHC (alpha-Hexach -Chlordane 7240 7115 7250 Chil 7265 7310 7105 7470 Endosulfan I 7510 7515 Endosulfan II Endosulfan sulfate 7520 7540 Endrin 7530 Endrin aldehyd Endrin ketone Etridiazole 7535 7575 nmma <del>Hexachlorocyclohexa</del>nE) gamma-BHC (Lindane 7120 gamma-Chlordar 7245 7685 Heptachlor 7690 Heptachlor epoxide 6275 Hexachlorobenzene 6285 Hexachlorocyclopentadiene 7810 Methoxychlor 7975 Permethrin (total) Propachlor (Ramrod) 8045 8250 Toxaphene (Chlorinated camphene) 8295 Trifluralin (Treflan) EPA 8081B 10178800 Organochlorine Pesticides by GC/ECD

Analyte Code	Analyte
 7355	4,4'-DDD
7360	4,4'-DDE
7365	4,4'-DDT
7005	Alachlor
7025	Aldrin
7110	alpha-BHC (alpha-Hexachlorocyclohexane)
7240	alpha-Chlordane
7115	beta-BHC (beta-Hexachlorocyclohexane)
7250	Chlordane (tech.)
7265	Chloroneb
7310	Chlorthalonil (Daconil)

ORELAP ID: TN200002

EPA CODE: TN00003

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7395

7385 7410

7770

7785 7825

7850 7905

7985

8110

8155 8200

8210

8245 8275

Expiration Date: 01/15/2012

As of 01/16/2011 this list supercedes all previous lists for this certificate number. Customers. PLease verify the current accreditation standing with ORELAP.

Analyte Code	Analyte
7770	Malathion
7785	Merphos
7825	Methyl parathion (Parathion, methyl)
7850	Mevinphos
7905	Naled
7985	Phorate
8110	Ronnel
8155	Sulfotepp
8200	Tetrachlorvinphos (Stirophos, Gardona) Z-isomer
8210	Tetraethyl pyrophosphate (TEPP)
8245	Tokuthion (Prothiophos)
8275	Trichloronate
EPA 8141B	10182204 Organophosphorous Pesticides by GC/NPD
Analyte Code	Afnalyte /
7075	zinphos-nethyl (Gütnion)
7125	Bolstar (Sulprofos)
7300	Chlorp rites
7315	Counaphos

Dem Dia: Fenthion Malathion Merphos Methyl parathic (Parathion methyl) Mevinphos . Naled Phorate Ronnel Sulfotepp Tetrachlorvinphos (Stirophos, Gardona) Z-isomer Tetraethyl pyrophosphate (TEPP) Tokuthion (Prothiophos) Trichloronate

EPA 8151A

10183207

Chlorinated Herbicides by GC/ECD

Analyte Code	Analyte
8655	2,4,5-T
8545	2,4-D
8560	2,4-DB
8555	Dalapon
8595	Dicamba
8605	Dichloroprop (Dichlorprop)
8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)
7775	MCPA
7780	MCPP
8650	Silvex (2,4,5-TP)

EPA 8260B

10184802

Volatile Organic Compounds by purge and trap GC/MS

Analyte Code

Analyte

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Customers. PLease verify the current accreditation standing with ORELAP.

Analyte Code	Analyte	
4750	Ethanol	
4755	Ethyl acetate	
4810	Ethyl methacrylate	
4765	Ethylbenzene	
4770	Ethyl-t-butylether (ETBE) (2-Ethoxy-2-m	ethylpropane)
4835	Hexachlorobutadiene	
4840	Hexachloroethane	
4870	Iodomethane (Methyl iodide)	
4875	Isobutyl alcohol (2-Methyl-1-propanol)	
4895	Isopropyl alcohol (2-Propanel, Isopropar	101)
4900	Isopropylbenzene	
4925	Methacrylonitrile 💮 💆 🖦	
4940	Methyl acetate	
4945	Methyl acrylate	
4950	Methyl bromide (Bromomethane)	
4960	Methyl-chloride (Chloromethane)	
4990	Methyl methacrylate	
5000	Methyl tert-butyl ether (MTBE)	
4965	Methylcyclohexane	
4975	Methylene chloride (Dichloromethane)	
5245	m-XVIene	
5005	Naphthalene	
4425	n-Buty, alcohol (#Butanol, n-Butanol)	
4435	n-Butylbenzene	The second second
5025	n-Nitro sp-di-n-buty anime-	
5090	n-Procylbenzene	
5250	o-Xylene III	Application of the second
5035	Pentachloroethane	
5080	Propionitrile (Ethyl cyanide)	
5255	p-Xylene	
4440	sec-Butylbenzene	
5100	Styrene	
4370	T-amylmethylether (TAME)	
303	tert-anyl alcohol	
4420	tert-Butyl alcohol	
4445	tert-Butylbenzene	
304	tert-butyl-formate	
5115	Tetrachloroethylene (Perchloroethylene)	And the state of t
5120	Tetrahydrofuran (THF)	
5140	Toluene	
4700	trans-1,2-Dichloroethylene	
4685	trans-1,3-Dichloropropylene	
4605 5170	trans-1,4-Dichloro-2-butene	
5170 5175	Trichloroethene (Trichloroethylene) Trichlorofluoromethane (Fluorotrichlorom	sothana Eroon 11)
5175 5225	•	lemane, rieon 11)
5225 5235	Vinyl acetate Vinyl chloride	
5235 5260	Xylene (total)	
5200	Aylerie (total)	
8260C	10307003	Volatile Organics: GC/

EPA 8260C

10307003

Volatile Organics: GC/MS (capillary column)

Analyte Code	Analyte
5105	1,1,1,2-Tetrachloroethane
5160	1,1,1-Trichloroethane
5110	1,1,2,2-Tetrachloroethane
5195	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)
5165	1,1,2-Trichloroethane
4630	1,1-Dichloroethane
4640	1,1-Dichloroethylene
4670	1,1-Dichloropropene
5150	1,2,3-Trichlorobenzene

ORELAP ID: TN200002

EPA CODE: TN00003

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Analyte Code	Analyte
4895	Isopropyl alcohol (2-Propanol, Isopropanol)
4900	Isopropylbenzene
4925	Methacrylonitrile
4940	Methyl acetate
4945	Methyl acrylate
4950	Methyl bromide (Bromomethane)
4960	Methyl chloride (Chloromethane)
4990	Methyl methacrylate
5000	Methyl tert-butyl ether (MTBE)
4965	Methylcyclohexane
4975	Methylene chloride (Dichleromethane)
5245	m-Xylene
5005	Naphthalene
4425	n-Butyl alcohol (1-Butanol, n-Butanol)
4435	n-Butylbenzene
5015	Nitrobenzene
5025	n-Nitroso-al-n-butylamine
5090	/n-Propylbenzene
5250	o-Xylene
5035	Pentachloroethane
5080	Propionitrile (Ethyl cyanide)
5255	p-Xylene:
6685	Saftole
4440	sec Butylbenzere
5100	Styrene
4370	T-arpylimethylethien (TAME)
4420	tert-Buryli alcoholis
4445	tert-Butylbenzene
5115	Tetrachjorgethylene (Perchloroethylene)
5120	Tetrahydrofuran (THF)
5140	Foluene (1997)
4700	trans-1,2-Dichloroethylene
4685	trans-1,3-Dichloropropylene
4605	trans-1,4-Dichioro-2-butene
5170	Trichloroethene (Trichloroethylene)
5175	Trichlorofluoromethane (Eluorotrichloromethane Freen 11)
5225	Vinyl acetate
5235	Vinyl chloride
5260	Xylene (total)
* * * * * * * * * * * * * * * * * * * *	

EPA 8270C

10185805

Semivolatile Organic compounds by GC/MS

Analyte Code	Analyte	
6705	1,2,3,4-Tetrachlorobenzene	
6710	1,2,3,5-Tetrachlorobenzene	
6715	1,2,4,5-Tetrachlorobenzene	
5155	1,2,4-Trichlorobenzene	
4610	1,2-Dichlorobenzene	
6221	1,2-Diphenylhydrazine	
6885	1,3,5-Trinitrobenzene (1,3,5-TNB)	
4615	1,3-Dichlorobenzene	
6160	1,3-Dinitrobenzene (1,3-DNB)	
4620	1,4-Dichlorobenzene	
6420	1,4-Naphthoquinone	
5790	1-Chloronaphthalene	
6425	1-Naphthylamine	
6735	2,3,4,6-Tetrachlorophenol	
6835	2,4,5-Trichlorophenol	
6840	2,4,6-Trichlorophenol	
6000	2,4-Dichlorophenol	
6130	2,4-Dimethylphenol	

ORELAP ID: TN200002

EPA CODE: TN00003

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12065 Lebanon Road

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TN 37122

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01/16/2011

Expiration Date: 01/15/2012

**As of** 01/16/2011

this list supercedes all previous lists for this certificate number.

Analyte Code	Analyte
5900	Dibenz(a, j) acridine
5895	Dibenz(a,h) anthracene
9348	Dibenzo(a, h) pyrene
9351	Dibenzo(a, i) pyrene
5890	Dibenzo(a,e) pyrene
5905	Dibenzofuran
6070	Diethyl phthalate
7475	Dimethoate
6135	Dimethyl phthalate
5925	Di-n-butyl phthalate
6200	Di-n-octyl phthalate
8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol-BNBP)
6205	Diphenylamine
8625	Disulfoton
6260	Ethyl methanesulfonate.
7580	Famphur
6265	Fluoranthene
6270	Fluorene
6275	Hexachiorobenzene
4835	Hexachlorobutadiene
6285	Hexachlorocyclopentadiene
4840	Hexachloroethane
6290	Hexaging rophered and the second seco
6295	Hexagniloroproperie
6315	Indenovit 2:3-cd/pyteme
7725	Isodrini
6320	Isophorane
6325	Isosafrole
7740	Kepone
6345	Methap <b>y</b> rilene
6375	Vietnyl methanesulfonate
7825	Methyl parathion (Parathion, methyl)
5005	Nabhhalene
5015	Nitrobenzene
6525	n-Nitrosoclethylamine
6530	n-Nitrosodimethylamine
5025	n-Nitroso-di-n-butylamine
6545	n-Nitrosodi-n-propylamine
6535	n-Nitrosodiphenylamine
6550	n-Nitrosomethylethalamine
6555	n-Nitrosomorpholine
6560	n-Nitrosopiperidine
6565	n-Nitrosopyrrolidine
8290	o,o,o-Triethyl phosphorothioate
6590	Pentachlorobenzene
5035	Pentachloroethane
6600	Pentachloronitrobenzene
6605	Pentachlorophenol  Rhonopetin
6610	Phenacetin
6615	Phenanthrene
6625	Phenol
7985	Phorate
9663	p-Phenylenediamine
6650	Pronamide (Kerb)
6665	Pyrene
5095	Pyridine
6685	Safrole
8155	Sulfotepp
0100	Canology

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Inalyte Code	Analyte
5595	Benzidine
5575	Benzo(a)anthracene
5580	Benzo(a)pyrene
5590	Benzo(g,h,i)perylene
9309	Benzo(i)fluoranthene
5600	Benzo(k)fluoranthene
5585	Benzo[b]fluoranthene
5610	Benzoic acid
5625	Benzotrichloride
5630	Benzyl alcohol
5635	Benzyl chloride
5760	bis(2-Chloroethoxy)methane
5765	bis(2-Chloroethyl) ether
	bis(2-Critionaethyn) erner
5780	bis(2-Chiordisopropyl) ether
5670	Buty/benzyliphtialate
5680	Carbazole
7260	Chlorobenzilate
5855	Chrysene
6065	Di(2-et/fyl/nexyl) phthalate (bis(2-Etaylhexyl)phthalate DEHP)
7405	Diallate
9354	Dibenz(a, h) acridine
5900	Dibenzia i) regraine
5895	Dibenzia m antimacene
9348	Dibenzera, h) pyrene
9351	Ďibenzo(a; i) pyrene
5890	Dibenzora e) pyrejae
5905	Diben, o(e) e) py e ve Diben, o(e) e) py e ve Diben, o(e) e) py e ve
6070	□ Diethy/ phthalate
7475	Dimetroate
6135	Dimethy) phthalate
5925	Di-n-butyl phthalate
6200	Divin-octyl phthalate
8620	Dineseb (2-sec-butyl-4,6-dinitrophenol, DNBP)
6205	Dipherylamine
8625	Disulfoton
6260	Ethyl methanesulfonate
7580	Famphur
6265	Fluoranthene
6270	Fluorene
6275	Hexachlorobenzene
4835	Hexachlorobutadiene Hexachlorobutadiene
6285	Hexachlorocyclopentadiene
4840	Hexachloroethane
6290	Hexachlorophene
6295	Hexachloropropene
6315	Indeno(1,2,3-cd) pyrene
7725	Isodrin
6320	Isophorone
6325	Isosafrole
7740	Kepone
6345	Methapyrilene
6375	Methyl methanesulfonate
7825	Methyl parathion (Parathion, methyl)
5005	Naphthalene
5875	n-Decane
5015	Nitrobenzene
6525	n-Nitrosodiethylamine
6530	n-Nitrosodimethylamine
5025	n-Nitroso-di-n-butylamine
6545	n-Nitrosodi-n-propylamine
6535	n-Nitrosodiphenylamine

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RDX (hexahydro-1,3,5-trinitro-1,3,5-tria	zine)
10190008	Nitroaromatics and Nitramines by High
1010000	Performance Liquid Chromatography (HPLC)
Analyte	r chomianoc Elquid Omomatography (in Eo)
1,3,5-Trinitrobenzene (1,3,5-TNB)	
1,3-Dinitrobenzene (1,3-DNB)	
2,4,6-Trinitrotoluene (2,4,6-TNT)	
4-INTOLOUGHE	
	(191)
Nitroglyderie	
Octahydro-1 3 5 7-tetranifro-1 3 5 7-tetra	azocine (HMX)
RDX (hexahydro-1,3,5-tringro-1,3,5-tria	zine)
100,93007	Total and Amenable Cyanide by Distillation and
	. UV-Vis
	<u> 44 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4</u>
Total oyanide	
10243002	Total and Amenable Cyanide by Distillation and
Value Value 1000	UV-Vis
Analyte	UIV-VIS
	<del></del>
10193405	Total and Amenable Cyanide (automated
	🐧 🎑 🐧 color/metric with off-line distillation)
Total cyanide	
10243206	Total and Amenable Cyanide (automated
,02 (020)	colorimetric with off-line distillation)
Analvte	colormento with on line distillation)
Total cyanide	
	T ( 10 11 !! 1
10194408	Total Organic Halides
Analyto	
	A 0 A WALE
Total organic halides (TOX)	
10195605	Acid-Soluble and Acid-Insoluble sulfides:
	Distillation
Analvte	Distillation
Sulfide	
10196006	Titrimetric Procedure for Acid-Soluble and Acid-
	Insoluble Sulfides
Analyte	
	Analyte  1,3,5-Trinitrobenzene (1,3,5-TNB) 1,3-Dinitrobenzene (1,3-DNB) 2,4,6-Trinitrotoluene (2,4,6-TNT) 2,4-Dinitrotoluene (2,4-DNT) 2,4-Dinitrotoluene (2,6-DNT) 2-Amino-4,6-dinitrotoluene (2-am-dnt) 2-Nitrotoluene 3-Nitrotoluene 4-Amino-2 6-dinitrotolitiene (4-am-dnt) 4-Nitrotoluene Methyl-2,4,6-frinitrophenylnitramine (tel Nitroberszene Nitroglygeria Octahydro-1,3,5-7-telrantiro-1,3-5-7-tell Pentaerythritoltetranitrate RDX (hexahydro-1,3-5-telrantiro-1,3-5-tella 104,9300,7  Analyte Amenable cyanide Total cyanide Total cyanide  10243002  Analyte Total cyanide  10243206  Analyte Total cyanide  10194408  Analyte Total organic halides (TOX)  10195605  Analyte Sulfide

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NWTPH-Gx		90018603	Oregon DEQ TPH Gasoline Range Organics by
Analyte Code	Analyte		GC/FID-PID Purge & Trap
9408		e organics (GRO)	
NWTPH-HCID		90013200	Oregon DEQ Total Petroleum Hydrocarbon ID
Analyte Code	Analyte		
2050	Total Petroleu	m Hydrocarbons (TF	PH)
OA-1		90013802	lowa TPH Gx by GC/PID Purge & Trap
A b . d - O - d -		/ D E	
Analyte Code 9408	Analyte /	e organics (GRO)	The state of the s
			76/6
OA-2	/ 42. 7	90014009	lowa THH Dx
Analyte Code	/Analyté		
9369	/ Diesel range d	rganics (DRO)	
SM 2120 B 20th ED		20224004	Color by Visual Comparison
Amalista Casta		100	
Analyte Code 1 1605	Analyte Color	Special Co	
SM 2130 B 20th ED		20042404 ,	Turbidity by Nephelometric Determination
Analyte Code	Analyte		And the second s
2055	Turbidity		16 T. C.
SM 2310 B 20th ED		20044206	Acidity by Titration
Analyte Code	Analyte		
1500	Acidity, as Ça	JO3	
SM 2320 B 20th ED		20045209	Alkalinity by Titration
Analyte Code	Analyte		
1505	Alkalinity as C	aCO3	
SM 2340 B 20th ED		20046202	Hardness by calculation
Analista Oast	A		- -
Analyte Code 1750	Analyte Hardness		
	· · · · · · · · · · · · · · · · · · ·	20040000	
SM 2510 B 20th ED	,	20048208	Conductivity by Probe
Analyte Code	Analyte		
1610	Conductivity		
SM 2540 B 20th ED		20049007	Total Solids
Analyte Code	Analyte		
1950	Residue-total		1
SM 2540 C 20th ED		20050004	Total Dissolved Solids
Analyte Code	Analyte		
1955	Residue-filtera	blo (TDS)	

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SM 4500-NH3 G 20th ED	20111006	Ammonia by Automated Phenate
Analyte Code	Analyte	
1515	Ammonia as N	
SM 4500-NO3 <sup>-</sup> F 20th ED	20116205	Nitrate Nitrogen by Automated Cadmium Reduction Method
Analyte Code	Analyte	
1820	Nitrate-nitrite	
SM 4500-Norg C 20th ED	20119602	Nitrogen (Organic) by Semi-micro Kjeldahl
Analyte Code	Analyte Analyte	
1790 1795	Kjeldahl nitrogen Kjeldahl nitrogen utotal	
SM 4500-O C 19th ED	20120201	Dissolved Oxygen by Azide Modification
Analyte Code	Analyte	
1880	Oxygen, dissolved	
SM 4500-O G 20th ED	20121204	Dissolved Oxygen by Membrane Electrode
Analyte Code	Analyte	
1880 SM 4500-P B 5 20th ED	Oxy <mark>genedissolved 23200</mark>	Phosphorus by Persulfate Digestion Method
A -1 (- 0 - 1- )		
Analyte Code 1910	Analyte Phospherus total	
	<b>1</b> 1	
SM 4500-P E 20th ED	20123802	Phosphorus by Ascorbic Acid Reduction
Analyte Code	Analyte 🥒	
1870	Orthophosphate as P	
· 1910	Phosphorus, total	
SM 4500-S2 D 20th ED	20125400	Sulfide by Methylene Blue Method
Analyte Code	Analyte	
2005	Sulfide	
SM 4500-SO3 B 20th ED	20130205	Sulfite by lodometric Method
Analyte Code	Analyte	
2015	Sulfite-SO3	
SM 5210 B 20th ED	20134809	Biochemical Oxygen Demand, 5-Day (BOD5)
Analyte Code	Analyte	
1530	Biochemical oxygen demand	
1555	Carbonaceous BOD, CBOD	
SM 5220 D 20th ED	20136407	Chemical Oxygen Demand by Closed Reflux and Colorimetric Determination
Analyte Code	Analyte	

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4455 Carbon tetrachloride A475 Chloroditromomethane A475 Chloroditromomethane A486 Chloroditromomethane A486 Chloroditromomethane A486 Chloroditromomethane A486 Chloroditromomethane A486 Cist. 2-Dichlorosthylene A487 Dichloroditromomethane (Freon-12) Dishoropylether (DIPE) Ethylenzene A488 Hexachlorofitization A488 Hexachlorofitization A488 Hexachlorofitization A488 Hexachlorofitization A488 Hexachlorofitization A488 Hexachlorofitization A489 Interview (DIPE) A488 Hexachlorofitization A489 Interview (DIPE) A489 I	Analyte Code	Analyte	
## A575 Chlorodibromomethane ## A686 Chloroform ## A505 Chloroform ## A506 Chloroform ## A506 Chloroformethane (Fren-12) ## A706 Ethylsenzene ## A506 Chloroformethane (Fren-12) ## A506 Ethylsenzene ## A506 Chloroformethane (Fren-12)	4455		
A485	4475	Chlorobenzene	
4895	4575	Chlorodibromomethane	
Head	4485	Chloroethane (Ethyl chloride)	
despt.   d	4505	Chloroform	
4880	4525	Chloroprene (2-Chloro-1,3-butadiene)	
Head   Dichiprocediture (DIPE)	4645	cis-1,2-Dichloroethylene	
9375	4680	cis-1,3-Dichloropropene	
### Ar65	4625	Dichlorodifluoromethane (Freon-12)	
4765	9375		
Hexach Green Listanger			
4900			
A960   Methyl chromatol Transpertance			
Map		Isopropylbenzene	
A975		Methyl chloride (Chloromethane)	
S245		Methyl-tert-butyl ether (MTBE)	
South	4975		
Ad35			
Assistant   Assi			
1			
S250	<b>3</b>		
S255	#	n-Propylberrzene	
A440	5250	o-Xvlene	
Stylen	5255		
4420 terh-Busy alcohol terh-Bu	4440	sec Buty benzenes	
Add   Section   Test	5100		
### 1875 ###	4420	tert-Butyl alcohol	
S120	4445	tert-Butylbenzene	
Site	5115	Tetrachjoroethylene (Perchloroethylene	e))
Side	5120	Tetrahydrofuran (THF)	
A685	5140		
A685	4700	trans-1,2-Dichloroethylene	
5170 Trichlocoethers (Thebloroethylene) 5175 Trichlocoethers (Thebloroethylene) 5235 Vinyl chloride 5260 Xylene (total)  M 6200 C 20th ED 20147200 Volatile Aromatic Organic Compounds by GC/PID Purge & Trap  Analyte Code 4375 Benzene 4375 Ethylbenzene 5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total)  M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD  Analyte Code 8295 Triffuralin (Treflan)  M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD  Analyte Code 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDE 7365 4,4'-DDT	4685		
Trichlorofluoromethane (Fluorotrichloromethane Frech 11)  5235 Vinyl chloride Xylene (total)  M 6200 C 20th ED  20147200  Volatile Aromatic Organic Compounds by GC/PID Purge & Trap  Analyte Code 4375 Benzene 5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total)  M 6630 B 20th ED  20153008  Analyte Code 8295 Trifluralin (Treflan)  M 6630 C 20th ED  20153804  Analyte Code 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT	5170	Trichlocoethere (Trichloroethylene)	
M 6200 C 20th ED  20147200  M 6200 C 20th ED  20147200  Analyte Code  4375 4765 Ethylbenzene 5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total)  M 6630 B 20th ED  20153008  M 6630 C 20th ED  20153804  Analyte Code Analyte  7355 4,4'-DDD 7360 7365 4,4'-DDE 7365 4,4'-DDE 7365 4,4'-DDT	5175	Trichlorofluoromethane (Fluorotrichloro	methane Freen 11)
M 6200 C 20th ED  20147200  Volatile Aromatic Organic Compounds by GC/PID Purge & Trap  Analyte Code  4375 Benzene 4765 Ethylbenzene 5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total)  M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD  Analyte Code 8295 Trifluralin (Treflan)  M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD  Analyte Code 7355 4,4'-DDD 7360 7360 4,4'-DDE 7365 7365 4,4'-DDT	5235		
Analyte Code Analyte  4375 Benzene 4765 Ethylbenzene 5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total)  M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD  Analyte Code Analyte 8295 Trifluralin (Treflan)  M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD  Analyte Code Analyte 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT	5260	Xylene (total)	
Analyte Code Analyte  4375 Benzene 4765 Ethylbenzene 5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total)  M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD  Analyte Code Analyte 8295 Trifluralin (Treflan)  M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD  Analyte Code Analyte 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT	M 6200 C 20th ED	20147200	Valatila Aramatia Organia Campayada by
Analyte Code Analyte  4375 Benzene 4765 Ethylbenzene 5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total)  M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD  Analyte Code Analyte  8295 Trifluralin (Treflan)  M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD  Analyte Code Analyte  7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT	W 6200 C 2011 ED	20147200	
4375	Analyte Code	Analisto	GC/PID Purge & Trap
## Aralyte Code ## Analyte Cod			
5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total)  M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD  Analyte Code 8295 Trifluralin (Treflan)  M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD  Analyte Code Analyte  7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT			
4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total)  M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD  Analyte Code 8295 Trifluralin (Treflan)  M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD  Analyte Code Analyte  7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT		•	
Toluene Xylene (total)  M 6630 B 20th ED  Analyte Code 8295  Trifluralin (Treflan)  M 6630 C 20th ED  Analyte Code Analyte  4,4'-DDD 7365  4,4'-DDE 7365  4,4'-DDT			
5260 Xylene (total)  M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD  Analyte Code 8295 Trifluralin (Treflan)  M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD  Analyte Code Analyte  7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT		•	
M 6630 B 20th ED  Analyte Code 8295 Triffuralin (Treflan)  M 6630 C 20th ED  Analyte Code Analyte  Analyte Code Analyte  Analyte  Analyte  Analyte  Analyte  7355 4,4'-DDD 7365 4,4'-DDT  Alignia Code Analyte  4,4'-DDT  Analyte  A			
Analyte Code Analyte  8295 Trifluralin (Treflan)  M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD  Analyte Code Analyte  7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT	5260	Xylene (total)	
Analyte Code 8295 Triffuralin (Treflan)  M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD  Analyte Code Analyte  7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT	M 6630 B 20th ED	20153008	Organochlorine Pesticides by Liquid/Liquid
Analyte Code 8295 Trifluralin (Treflan)  M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD  7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT			
M 6630 C 20th ED  20153804  Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD  7355 7360 4,4'-DDE 7365 4,4'-DDT			
Analyte Code         Analyte         Liquid/Liquid Extraction and GC/ECD           7355         4,4'-DDD           7360         4,4'-DDE           7365         4,4'-DDT	8295	Trifluralin (Treflan)	
Analyte Code     Analyte       7355     4,4'-DDD       7360     4,4'-DDE       7365     4,4'-DDT	M 6630 C 20th ED	20153804	Organochlorine Pesticides and PCBs by
7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT			Liquid/Liquid Extraction and GC/ECD
7360 4,4'-DDE 7365 4,4'-DDT			
7365 4,4'-DDT			
,			
nitroin GSUN		•	
	7025	Alarin	
			Page 39 of 59

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eference	Code	Description
EPA 1010	10116606	Pensky-Martens Closed-Cup Method for
Analyte Code	Analyte	Determining Ignitability
1780	Ignitability	
EPA 1010A	10234807	Pensky-Martens Closed-Cup Method for
Analyte Code	Analyte	Determining Ignitability
1780	Ignitability	
EPA 1030	10117201	Ignitability of Solids
Analyte Code	Analyte /	
1780	Ignitability	
EPA 1110	10118000	Corrosivity Toward Steel
Analyte Code	Analyte	
1615	Corposiwity 2	Carlos Interestados
EPA 1110A	102 <b>3</b> 5208	Corrosivity Toward Steel
Analyte Code	Analiyte	
1615	Corresionty	
EPA 1311	10118806	Toxicity Characteristic Leaching Procedure
	1011000	regions of an actemptic Leaching Frocedure
Analyte Code	Analyte	
308	Extraction/Preparation	
EPA 1312	10119003	Synthetic Precipitation Leaching Procedure
Analyte Code	Analyte	
308	Extraction/Preparation	
EPA 3051	10135805	Microwave Assisted Acid Digestion of
	1010000	Sediments, Sludges, Soils, and Oils
Analyte Code	Analyte	
308	Extraction/Preparation	
EPA 3051A	10136002	Microwave Assisted Acid Digestion of
Analyte Code	Analyte	Sediments, Sludges, Soils, and Oils
308	Extraction/Preparation	
EPA 3052	10136206	Microwave Assisted Acid Digestion of Siliceous
LI A 3032	10 130200	and Organically Based Matrices
Analyte Code	Analyte	and Organically Datical Matrices
308	Extraction/Preparation	
EPA 3060A	10136604	Alkaline Digestion for Hexavalent Chromium
Analyte Code	Analyte	
308	Extraction/Preparation	<del></del>

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As of 01/16/2011

this list supercedes all previous lists for this certificate number.

Customers. PLease verify the current accreditation standing with ORELAP.

EPA 5035A 10284807 Closed-System Purge-and-Trap and Extraction for Volatile Organics in Soil and Waste Samples

Analyte Code Analyte

308 Extraction/Preparation

EPA 6010B 10155609 ICP - AES

Analyte Code Analyte 1000 Aluminum 1005 Antimony 1010 Arsenic 1015 Barium 1020 Beryllium 1025 Boron Cadmium 1030 Calcium Chromium Cobalt 1035 1040 1050 1055 Coppe 1070 Iron 1075 Lead Lithidin 1080 1085 Mag 1090 Mar 1100 1105 Nickel 1125 Pota 1140 Selei 1150 1155 Sodiu 1160 Strontiur 1165 Mallium 1175 Tin 1180 Titahium 1185 Vanadium 1190 Zinc **EPA 6010C** - AES

Analyte Code Analyte 1000 Aluminum 1005 Antimony 1010 Arsenic 1015 Barium 1020 Beryllium 1025 Boron 1030 Cadmium 1035 Calcium 1040 Chromium 1050 Cobalt 1055 Copper 1070 Iron 1075 Lead 1080 Lithium 1085 Magnesium 1090 Manganese 1100 Molybdenum Nickel 1105 1125 Potassium 1140 Selenium 1150 Silver

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

#### **Environmental Science Corporation**

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date:

01/16/2011

Expiration Date: 01/15/2012

**As of** 01/16/2011

this list supercedes all previous lists for this certificate number.

		10166402	Mercury by Cold Vapor Atomic Absorption
lvte Code	Analyte		
		4047004	Non-beleased annuity COLED
		10173601	Non-halogenated organics using GC/FID
lyte Code	Analyte		
9369		organics (DRO)	
		and a series of the series of	
		ge organics (GRO)	
			a find of the second of the se
	//	10305609	Nonhalogenated Organics Using GC/FID
yte Code	Analyte		
9369	Dieselhange	organics (DRO)	
4750	Ethanol		
		ge organics (GRO)	
4930	vivietnanov		
		10174808	Aromatic and Halogenated Volatiles by GC with
luta Cada	A Laborator	Carlo Carlo	PID and/or ECD Purge & Trap
		Part Control of the Control	
4765		100	
5000	Methyl tert bu	ityTremer/(MRBE)	A Company of the Control of the Cont
5245	m-Xylene	Maria - 12 (19 19 19 19 19 19 19 19 19 19 19 19 19 1	
5260			
· · · · ·		<u> </u>	Organochlorine Pesticides by GC/ECD
	<b>```</b>		and a second state of the second seco
yte Code			
		The same of the sa	and the second s
			•
7025	Aldrin		
7110			ohexane)
7240			
	peta-BHC (be	eta-Hexacniorocycloh och \	exane)
		(C) (.)	
		(Daconil)	
7105	delta-BHC	<u> </u>	
7470	Dieldrin		·
7510	Endosulfan I		
		ulfata	
		uırate	
		rde	·
7535	Endrin ketone		
7575	Etridiazole		
1010			
7120	-	(Lindane, gamma-He	exachlorocyclonexanE)
7120 7245	gamma-Chlor		exactiorocyclonexanE)
7120	-	rdane	exactiorocyclonexanE)
	9369 4750 9408 4930   Yte Code 9369 4750 9408 4930   Yte Code 9369 4750 9408 4930   Yte Code 7355 5250 5255 5140 5260   Yte Code 7355 7360 7365 7005 7025 7110 7240 7115 7250 7265 7310 7105 7470 7515 7520 7540 7530	1095   Mercury   1095   Mercury   1095   Mercury   1096   Analyte   9369   Ethanol   9408   Gasoline range   4930   Methanol   1096   Me	10173601   10173601   10173601   10173601   10173601   10173601   10173601   10173601   10173609   10173609   10173609   10305609

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

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Analyte Code	Analyte	
8900	Aroclor-1248 (PCB-1248)	
8905	Aroclor-1254 (PCB-1254)	
8910	Aroclor-1260 (PCB-1260)	

EPA 8141A

10182000

Organophosphorous Pesticides by GC/NPD

Analyte Code	Analyte
7075	Azinphos-methyl (Guthion)
7125	Bolstar (Sulprofos)
7300	Chlorpyrifos
7315	Coumaphos
7395	Demeton-o
7385	Demeton-s
7410	Diazingh :
8610	Dichlorovos*(DDVP Dichlorvos)
7475	Dimethoate
8625	Disulfoton/
7550	/EPN
7570	Ethoprop
7600	Fensulfothion
7605	Fentilion
7770	Malathion
7785	Merphos
7825	Methyl parathion 42 arathronomothy)
7850	Mevinonos
7905	Naled
7985	Phoraie
8110	Ronnel
8155	Sulfotepp
8200	Tetrachlorvigphos (Stirophos, Gardona) Z-isomer
8210	Tetraethy pyrophosphate (TEPP)
8245	Takuthion (Prothiophos)
8275	Trichloronate

EPA 8141B

10182204 Organophosphorous Pesticides by GC/NPD

		To to 1225 A supplied by the supplied of the supplied by
1	Inalyte Code	Analyte H () R
	7075	Azinphos-methyl (Guthion)
	7125	Bolstar (Sulprofos)
	7300	Chlorpyrifos
	7315	Coumaphos
	7395	Demeton-o
	7385	Demeton-s
	7410	Diazinon
	8610	Dichlorovos (DDVP, Dichlorvos)
	7475	Dimethoate
	8625	Disulfoton
	7550	EPN .
	7570	Ethoprop
	7600	Fensulfothion
	7605	Fenthion
	7770	Malathion
	7785	Merphos
	7825	Methyl parathion (Parathion, methyl)
	7850	Mevinphos
	7905	Naled
	7985	Phorate
	8110	Ronnel
	8155	Sulfotepp
	8200	Tetrachlorvinphos (Stirophos, Gardona) Z-isomer
	8210	Tetraethyl pyrophosphate (TEPP)

**ORELAP ID:** TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

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Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

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Analyte Code	Analyte
4395	Bromodichloromethane
4397	Bromoethane (Ethyl Bromide)
4400	Bromoform
4450	Carbon disulfide
4455	Carbon tetrachloride
4475	Chlorobenzene
4575	Chlorodibromomethane
4485	Chloroethane (Ethyl chloride)
4505	Chloroform
4525	Chloroprene (2-Chloro-1.3-butadiene)
4645	cis 1.2 Dichloroothydag
4680	cis-1,3-Dichlorograpene
4600	cis-1,4-Dignioro-2-butene
4555	Cyclohexane .
4560	Cyclohexamone
4580	Dibromochloropropane
4595	Dibromomethane (Methyllene bromide)
4625	Dichloropifluoromethane (Freen-12)
	Diethylether
4725	
9375	Di-isopropylether (DIRE)
4750	Ethaniol Ethaniol
4755	Ethyl acetatel 1-
4810	Ethyl methiadrylate
4765	EthVlb <mark>erizene</mark>
4770	Ethyl-t-butylether (ERBE) (2-Ethoxy 2-methylpropane)
4835	Hexachiorobutadiene
4840	Hexagnioroethaper 🔻
4870	lodomethane (Methyl iodide)
4875	Isobuty alcohol (2-Methyl-1-propanol)
4895	Isopropyl alcohol (2-Propanol, Isopropanol)
4900	sopropylbenzene
4925	Methacrylonitrile.
4940	Methyl acetate
4945	Methylvacrylate
4950	Methyl bromide (Bromomethane)
4960	Methyl chloride (Chloromethane)
4990	Methyl methacrylate
5000	Methyl tert-butyl ether (MTBE)
4965	Methylcyclohexane
4975	Methylene chloride (Dichloromethane)
5245	m-Xylene
5005	Naphthalene
4425	n-Butyi alcohol (1-Butanol, n-Butanol)
4435	n-Butylbenzene
5025	n-Nitroso-di-n-butylamine
	•
5090 5350	n-Propylbenzene
5250	o-Xylene
5035	Pentachloroethane
5080	Propionitrile (Ethyl cyanide)
5255	p-Xylene
4440	sec-Butylbenzene
5100	Styrene
4370	T-amylmethylether (TAME)
303	tert-amyl alcohol
4420	tert-Butyl alcohol
4445	tert-Butylbenzene
304	tert-butyl-formate
5115	Tetrachloroethylene (Perchloroethylene)
5120	Tetrahydrofuran (THF)
5140	Toluene

**ORELAP ID:** TN200002

**EPA CODE:** TN00003 **Certificate:** TN200002 - 008

#### **Environmental Science Corporation**

01/16/2011

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01

Expiration Date: 01/15/2012

**As of** 01/16/2011

this list supercedes all previous lists for this certificate number.

Analyte Code	Analyte
4525	Chloroprene (2-Chloro-1,3-butadiene)
4645	cis-1,2-Dichloroethylene
4680	cis-1,3-Dichloropropene
4600	cis-1,4-Dichloro-2-butene
4555	Cyclohexane
4560	Cyclohexanone
4580	Dibromochloropropane
	· ·
4595	Dibromomethane (Methylene bromide)
4625	Dichlorodifluoromethane (Freon-12)
4725	Diethyl ether
9375	Di-isopropylether (DIPE)
4750	Ethanol
4755	Ethyl acetate
4810	Ethyl methacrylate
4765	Ethylbenzene
4770	Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane)
4835	Hexachlorobutadiene
4840	Héxachloroethane
4870	lodomethane (Methylliodide)
4875	Isobutyl alcohol (2-Methyl-1-propans)
4895	Isopropyl alcohol (2-Methylet-brogatise)
€.	
4900	Isoprativibentiene
4925	Methae woritrie
4940	Methy acetate
4945	Methyl acrylate
4950	Methy bromide (Bromemethane)
4960	Methylichloride (Chloromethane)
4990	Methylmethacrylate
5000	Methylytert-butyl ether (MTBE)
4965	Methylcyclohexane
4975	Methylene chloride (Dichloromethane)
5245	m/Xylene
5005	Naphthalene
4425	n-Butyl alcohol (1-Butanol, n-Butanol)
4435	n-Butylbenzene
5015	Nitrobenzene
5025	n-Nitroso-di-n-butylamine
5090	
	n-Propylbenzene
5250	o-Xylene
5035	Pentachloroethane
5080	Propionitrile (Ethyl cyanide)
5255	p-Xylene
6685	Safrole
4440	sec-Butylbenzene
5100	Styrene
4370	T-amylmethylether (TAME)
4420	tert-Butyl alcohol
4445	tert-Butylbenzene
5115	Tetrachloroethylene (Perchloroethylene)
5120	Tetrahydrofuran (THF)
5140	Toluene
4700	trans-1,2-Dichloroethylene
4685	trans-1,3-Dichloropropylene
4605	trans-1,4-Dichloro-2-butene
5170	Trichloroethene (Trichloroethylene)
5175	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)
5225	Vinyl acetate
5235	Vinyl chloride
	Xylene (total)

**ORELAP ID:** TN200002

**EPA CODE:** TN00003 **Certificate:** TN200002 - 008

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**As of** 01/16/2011

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Analyte Code	Analyte
5595	Benzidine
5575	Benzo(a)anthracene
5580	Benzo(a)pyrene
5590	Benzo(g,h,i)perylene
9309	Benzo(j)fluoranthene
5600	Benzo(k)fluoranthene
5585	Benzo[b]fluoranthene
5610	Benzoic acid
5625	Benzotrichloride
5630	Benzyl alcohol
5635	
5760	Benzyl chloride bis(2-Chloroethoxy)methane
5765	bis(2-Chloroethyl) ether
5780	bis(2-Chilorofsopropyl) effici
5670	Butyl benzyliphthalate
5680	Carbazole
7260	<b>€</b> hlorobenzilate
5855	Chrysene
6065	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate DEHP)
7405	Diallate
9354	Dibenz(a, h) acridine
5900	Dibenzia () actidine
5895	Dibenz(alh) anthuacener
9348	Dibenzo(a, h) pytenetic
9351	Dibenzo (a; i) pyjene
5890	Dibenzo(a,e) pyseise
5905	Dibenzoturan
6070	Diethyl phthalate
7475	Dimethoate
6135	Dimethy phthalate
5925	
	Di-n-buty/phthalate
6200	Di-n-octyl phthalate
8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)
6205	Dipherylamine
8625	Disulfoton
6260	Ethyl methanesulfonate
7580	Famphur
6265	Fluoranthene
6270	Fluorene
6275	Hexachlorobenzene
4835	Hexachlorobutadiene
6285	Hexachlorocyclopentadiene
4840	Hexachloroethane
6290	Hexachlorophene
6295	Hexachloropropene
6315	Indeno(1,2,3-cd) pyrene
7725	Isodrin
6320	Isophorone
6325	Isosafrole
7740	Kepone
6345	·
	Methapyrilene Methal methapasulfonata
6375	Methyl methanesulfonate
7825	Methyl parathion (Parathion, methyl)
5005	Naphthalene
5015	Nitrobenzene
6525	n-Nitrosodiethylamine
6530	n-Nitrosodimethylamine
5025	n-Nitroso-di-n-butylamine
6545	n-Nitrosodi-n-propylamine
6535	n-Nitrosodiphenylamine
6550	n-Nitrosomethylethalamine

**ORELAP ID:** TN200002

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Analyte Code	Analyte
5660	4-Bromophenyl phenyl ether
5700	4-Chloro-3-methylphenol
5745	4-Chloroaniline
5825	4-Chlorophenyl phenylether
6105	4-Dimethyl aminoazobenzene
6410	4-Methylphenol (p-Cresol)
6470	4-Nitroaniline
6500	4-Nitrophenol
6510	4-Nitroguinoline 1-oxide
6570	5-Nitro-o-toluidine
6115	7,12-Dimethylbenz(a) anthraceire
9417	
6125	7h-Dibenzo(c, g) carbazole
	a-a-Dimethylphenethylamine
5500	Acenaphthene
5505	Acenaphthylene
5510	Acetophenone
5545	Aniline
5555	Anthracene
5560	Aramite
5565	Benzal chloride
5595	Benzidine
5575	Benzarahharene
5580	Benzokarpyrene
5590	Benzo g h,i)pery ene
9309	Benzontiuorantiiene
5600	Benzoakifluoranthenens
5585	Benzo bifluorant ene
5610	Benzorc acid
5625	Benzottichloride
5630	Benzyl alcohol
5635	Benzyl chipride
5760	bis(2-Chloroethoxy)methane
5765	bis(2-Chloroethyl) ether
5780	bis(2-Chloroisopropyl) ether
5670	Butyl benzyl phthalate
5680	Carbazole
7260	
5855	Chlorobenzilate
	Chrysene
6065	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)
7405	Diallate  Dihama(a, b) assisting
9354	Dibenz(a, h) acridine
5900	Dibenz(a, j) acridine
5895	Dibenz(a,h) anthracene
9348	Dibenzo(a, h) pyrene
9351	Dibenzo(a, i) pyrene
5890	Dibenzo(a,e) pyrene
5905	Dibenzofuran
6070	Diethyl phthalate
7475	Dimethoate
6135	Dimethyl phthalate
5925	Di-n-butyl phthalate
6200	Di-n-octyl phthalate
8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)
6205	Diphenylamine
8625	Disulfoton
6260	Ethyl methanesulfonate
7580	Famphur
6265	Fluoranthene
6270	Fluorene
6275 4835	Hexachlorobenzene Hexachlorobutadiene

**ORELAP ID:** TN200002

EPA CODE: TN00003

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Certificate: TN200002 - 008

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Mt. Juliet

TN 37122

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As of 01/16/2011

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EPA 8330	10189807	Nitroaromatics and Nitramines by HPLC/UV-VIS
Analyte Code	Analyte	
6885	1,3,5-Trinitrobenzene (1,3,5-TNB)	
6160	1,3-Dinitrobenzene (1,3-DNB)	
9651	2,4,6-Trinitrotoluene (2,4,6-TNT)	
6185	2,4-Dinitrotoluene (2,4-DNT)	
6190	2,6-Dinitrotoluene (2,6-DNT)	
9303	2-Amino-4,6-dinitrotoluene (2-am-dnt)	
6462	2-Nitroguanidine	
9507	2-Nitrotoluene	
9510 9306	3-Nitrotoluene 4-Amino-2,6-dinitrotoluene (4-am <u>-dnt)</u>	
9513	4-Artifilo-2,04diminotoldeile (4-arti-drift)	
6415	Methyl 2,4 6-trinitrophenylhitramine (tetry)	A THE STATE OF THE
5015	Nitrobenzene	
6485	Nitrogliyserip	
9522	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetraz	zocine (HMX)
9558	Pentaerythritoitetranitrate	
9432	RDX (hexahydro-1,3,5 trinitro 4,3,5 thazir	ie)
EPA 8330A	10190008	Nitroaromatics and Nitramines by High
EFA 6330A	10.190000	
Analyte Code	Analyte	Performance Liquid Chromatography (HPLC)
6885	1,3,5-Prinitropenzers (4,352TNB)	
6160	1,3-Diritiobenzene (# 3-DNB)	
9651	2,4,6-Illimitrotolue se (2,4,6-IINIII)	
6185	2,4 Dimitrotoluerie (2,4 DNP)	
6190	2,6-Dinitrotoluene (2,6-DNT)	
9303	2-Amino-4,6-dinitrotoluene (2-am-dnt)	
9507	2-Nitrotoiuene	
9510	3 Nitrotoluene	
9306	4-Amino-2,6-dinitrotoluene (4-am-dnt)	
9513	4-Nitrotoluene	
6415	Methyl-2,4,6-trinitrophenylnitramine (tetryl	
5015	Nitrobenzene /	
6485	Nitroglycerin	
9522	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetraz	ooine (HMX)
9558	Pentaerythritoltetranitrate	
9432	RDX (hexahydro-1,3,5-trinitro-1,3,5-triazir	ne)
EPA 9010B	10193007	Total and Amenable Cyanide by Distillation and
Analyte Code	Analyte	UV-Vis
1510	Amenable cyanide	***************************************
1645	Total cyanide	
EPA 9010C	10243002	Total and Amenable Cyanide by Distillation and
EPA 9010C	10243002	UV-Vis
Analyte Code	Analyte	
1510	Amenable cyanide	
1645	Total cyanide	·
EPA 9012A	10193405	Total and Amenable Cyanide (automated
		colorimetric with off-line distillation)
Analyte Code	Analyte	
1645	Total cyanide	
EDA 0012D	10242206	Total and Amonable Cyanide (outemated
EPA 9012B	10243206	Total and Amenable Cyanide (automated
Analyte Code	Analyte	colorimetric with off-line distillation)

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

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Analyte Code	Analyte	
1835	Nitrite	
1870 2000	Orthophosphate as P Sulfate	
EPA 9060	10200201	Total Organic Carbon
Analysia Onda	Aughsta	
Analyte Code 2040	Analyte Total organic carbon	
EPA 9060A	10244801	Total Organic Carbon
Amaluta Oada	Analyte A E	
Analyte Code 2040	Analyte Total organic carbon	
		Olympia San Fritzentian Mathed for studies and
EPA 9071B	10201602	Oil and Grease Extraction Method for sludge and sediment samples
Analyte Code	Analyte	"Sournout Samples
1860	Oil & Grease	
EPA 9095	10204009	Paint Filter Liquids Test
Analyte Code	A CHINA CONTRACTOR OF THE CONT	and the second s
308	Ariallyte Extraction/Preparation	
TDA 0005A	10204203	Paint Filter Liquids Test
EPA 9095A	1020-203	Paint Pitter induitis Test
Analyte Code	Analyte	
308	Extraction/Preparation	
NWTPH-Dx	90018409	Oregon DEQ TPH Diesel Range
Analyte Code	Anglisto	
9369	Analyte Diesel range organics (DRO)	
NWTPH-Gx	90018603	Oleven REO TDH Capaline Panga Organica by
NVVIPH-GX	90019003	Oregon DEQ TPH Gasoline Range Organics by GC/FID-PID Purge & Trap
Analyte Code	Analyte	GGA 15 1 15 1 dige a 11ap
9408	Gasoline range organics (GRO)	
NWTPH-HCID	90013200	Oregon DEQ Total Petroleum Hydrocarbon ID
Analyte Code	Analyte	
2050	Total Petroleum Hydrocarbons (TPH)	•
OA-1	90013802	lowa TPH Gx by GC/PID Purge & Trap
Analyte Code	Analyte	
9408	Gasoline range organics (GRO)	
OA-2	90014009	lowa TPH Dx
Analyte Code 9369	Analyte Diesel range organics (DRO)	
		T. (1. F)
SM 2540 G 20th ED	20005258	Total, Fixed, and Volatile Solids in Solid and
Analyte Code	Analyte	Semisolid Samples
1725	Total, fixed, and volatile residue	<del></del>



YOUR LAB OF CHOICE

12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

#### Report Summary

Tuesday May 10, 2011

Report Number: L513596 Samples Received: 04/29/11 Client Project: 1843-00

Description: Taylor Lumber

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Jarred Willis , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487 GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140 NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233 AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A, TX - T104704245, OK-9915

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Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-01

May 10, 2011

Site ID :

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : MW-15S

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/26/11 11:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	12.	0.33	1.0	uq/l		8270C	05/02/11	1
Surrogate Recovery				3.				
2-Fluorophenol	34.6			% Rec.		8270C	05/02/11	1
Phenol-d5	24.0			% Rec.		8270C	05/02/11	1
Nitrobenzene-d5	80.9			% Rec.		8270C	05/02/11	1
2-Fluorobiphenyl	95.6			% Rec.		8270C	05/02/11	1
2,4,6-Tribromophenol	83.2			% Rec.		8270C	05/02/11	1
p-Terphenyl-d14	97.7			% Rec.		8270C	05/02/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

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Tax I.D. 62-0814289

Est. 1970 May 10, 2011

Site ID :

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-02

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : MW-13S

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/26/11 13:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	Ū	0.33	1.0	uq/l	L2	8270C	05/02/11	1
Surrogate Recovery				3.				
2-Fluorophenol	0.940			% Rec.	J2	8270C	05/02/11	1
Phenol-d5	0.510			% Rec.	J2	8270C	05/02/11	1
Nitrobenzene-d5	73.9			% Rec.		8270C	05/02/11	1
2-Fluorobiphenyl	91.9			% Rec.		8270C	05/02/11	1
2,4,6-Tribromophenol	24.8			% Rec.		8270C	05/02/11	1
p-Terphenyl-d14	108.			% Rec.		8270C	05/02/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

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REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-03

Project #: 1843-00

May 10, 2011

: Date Received April 29, 2011

Description Taylor Lumber

Site ID : MW-12S Sample ID

Collection Date : Collected By Michael Whitson 04/26/11 14:10

RDL Units Qualifier Method Date Dil. Parameter Result MDL Acid Extractables Pentachlorophenol Surrogate Recovery U 0.33 1.0 8270C 05/04/11 ug/l 1 2-Fluorophenol 17.7 % Rec. 8270C 05/04/11 Phenol-d5 14.5 % Rec. 8270C 05/04/11 Nitrobenzene-d5 69.8 % Rec. 8270C 05/04/11 2-Fluorobiphenyl 82.4 % Rec. 8270C 05/04/11 1 2,4,6-Tribromophenol 94.9 % Rec. 8270C 05/04/11 1 8270C p-Terphenyl-d14 105. 05/04/11 1 % Rec.

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

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REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

May 10, 2011

Site ID :

ESC Sample # : L513596-04

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID MW-06S

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/26/11 16:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	U	0.33	1.0	uq/l		8270C	05/02/11	1
Surrogate Recovery				5,				
2-Fluorophenol	23.3			% Rec.		8270C	05/02/11	1
Phenol-d5	17.5			% Rec.		8270C	05/02/11	1
Nitrobenzene-d5	69.8			% Rec.		8270C	05/02/11	1
2-Fluorobiphenyl	83.0			% Rec.		8270C	05/02/11	1
2,4,6-Tribromophenol	58.0			% Rec.		8270C	05/02/11	1
p-Terphenyl-d14	112.			% Rec.		8270C	05/02/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

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REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

May 10, 2011

Site ID :

ESC Sample # : L513596-05

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : MW-06S DUP

Collected By : Michael Whitson Collection Date : 04/26/11 16:20

Project #: 1843-00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	U	0.33	1.0	ug/l		8270C	05/02/11	1
Surrogate Recovery				_				
2-Fluorophenol	21.1			% Rec.		8270C	05/02/11	1
Phenol-d5	16.8			% Rec.		8270C	05/02/11	1
Nitrobenzene-d5	71.3			% Rec.		8270C	05/02/11	1
2-Fluorobiphenyl	89.4			% Rec.		8270C	05/02/11	1
2,4,6-Tribromophenol	48.8			% Rec.		8270C	05/02/11	1
p-Terphenyl-d14	111.			% Rec.		8270C	05/02/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

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REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-06

May 10, 2011

Site ID :

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : PZ-102

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/27/11 08:50

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	U	0.33	1.0	ug/l		8270C	05/04/11	1
Surrogate Recovery				_				
2-Fluorophenol	31.7			% Rec.		8270C	05/04/11	1
Phenol-d5	21.9			% Rec.		8270C	05/04/11	1
Nitrobenzene-d5	65.8			% Rec.		8270C	05/04/11	1
2-Fluorobiphenyl	70.7			% Rec.		8270C	05/04/11	1
2,4,6-Tribromophenol	82.1			% Rec.		8270C	05/04/11	1
p-Terphenyl-d14	72.4			% Rec.		8270C	05/04/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

Note:

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Site ID :

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-07

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : MW-103S

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/27/11 09:50

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	1.6	0.33	1.0	uq/l		8270C	05/04/11	1
Surrogate Recovery				3.				
2-Fluorophenol	15.6			% Rec.		8270C	05/04/11	1
Phenol-d5	11.1			% Rec.		8270C	05/04/11	1
Nitrobenzene-d5	59.0			% Rec.		8270C	05/04/11	1
2-Fluorobiphenyl	71.6			% Rec.		8270C	05/04/11	1
2,4,6-Tribromophenol	46.2			% Rec.		8270C	05/04/11	1
p-Terphenyl-d14	86.5			% Rec.		8270C	05/04/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

Note:

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REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

Sample ID

May 10, 2011

ESC Sample # : L513596-08

Project #: 1843-00

Date Received : April 29, 2011 Description : Taylor Lumber

Site ID : : MW-20S

Collected By : Michael Whitson Collection Date : 04/27/11 10:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	U	0.33	1.0	uq/l		8270C	05/03/11	1
Surrogate Recovery				5,				
2-Fluorophenol	30.6			% Rec.		8270C	05/03/11	1
Phenol-d5	25.2			% Rec.		8270C	05/03/11	1
Nitrobenzene-d5	74.0			% Rec.		8270C	05/03/11	1
2-Fluorobiphenyl	80.4			% Rec.		8270C	05/03/11	1
2,4,6-Tribromophenol	62.5			% Rec.		8270C	05/03/11	1
p-Terphenyl-d14	96.3			% Rec.		8270C	05/03/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

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Site ID :

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-09

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : MW-19S

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/27/11 11:50

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	U	0.33	1.0	ug/l		8270C	05/03/11	1
Surrogate Recovery				_				
2-Fluorophenol	26.6			% Rec.		8270C	05/03/11	1
Phenol-d5	20.4			% Rec.		8270C	05/03/11	1
Nitrobenzene-d5	77.8			% Rec.		8270C	05/03/11	1
2-Fluorobiphenyl	83.2			% Rec.		8270C	05/03/11	1
2,4,6-Tribromophenol	71.5			% Rec.		8270C	05/03/11	1
p-Terphenyl-d14	102.			% Rec.		8270C	05/03/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

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REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-10

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : PZ-101 Site ID :

May 10, 2011

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/27/11 13:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	U	0.33	1.0	ug/l		8270C	05/03/11	1
Surrogate Recovery				_				
2-Fluorophenol	30.4			% Rec.		8270C	05/03/11	1
Phenol-d5	22.6			% Rec.		8270C	05/03/11	1
Nitrobenzene-d5	72.2			% Rec.		8270C	05/03/11	1
2-Fluorobiphenyl	78.2			% Rec.		8270C	05/03/11	1
2,4,6-Tribromophenol	77.2			% Rec.		8270C	05/03/11	1
p-Terphenyl-d14	94.7			% Rec.		8270C	05/03/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

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REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

May 10, 2011

Site ID :

ESC Sample # : L513596-11

Project #: 1843-00

Date Received : April 29, 2011 Description : Taylor Lumber

: MW-1S Sample ID

Collected By : Michael Whitson Collection Date : 04/27/11 14:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	U	0.33	1.0	ug/l		8270C	05/09/11	1
Surrogate Recovery				_				
2-Fluorophenol	7.30			% Rec.	Ј2	8270C	05/09/11	1
Phenol-d5	4.80			% Rec.	Ј2	8270C	05/09/11	1
Nitrobenzene-d5	61.1			% Rec.		8270C	05/09/11	1
2-Fluorobiphenyl	73.6			% Rec.		8270C	05/09/11	1
2,4,6-Tribromophenol	27.0			% Rec.		8270C	05/09/11	1
p-Terphenyl-d14	91.2			% Rec.		8270C	05/09/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

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. Reported: 05/10/11 10:24 Revised: 05/10/11 14:57 L513596-11 (SV8270PCP) - Previous run also had low SURR recovery. Matrix effect.



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REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-12

May 10, 2011

Site ID :

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : MW-11S

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/27/11 15:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	0.87	0.33	1.0	ug/l	J	8270C	05/02/11	1
Surrogate Recovery				<b>J</b> .				
2-Fluorophenol	21.2			% Rec.		8270C	05/02/11	1
Phenol-d5	15.6			% Rec.		8270C	05/02/11	1
Nitrobenzene-d5	76.0			% Rec.		8270C	05/02/11	1
2-Fluorobiphenyl	89.6			% Rec.		8270C	05/02/11	1
2,4,6-Tribromophenol	58.1			% Rec.		8270C	05/02/11	1
p-Terphenyl-d14	113.			% Rec.		8270C	05/02/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

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May 10, 2011

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-13

Project #: 1843-00

Date Received : April 29, 2011 Description : Taylor Lumber

Site ID : Sample ID : MW-25S

Collected By : Michael Whitson Collection Date : 04/27/11 16:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	230	6.7	20.	ug/l		8270C	05/09/11	20
Surrogate Recovery				_				
2-Fluorophenol	0.00			% Rec.	J7	8270C	05/09/11	20
Phenol-d5	0.00			% Rec.	J7	8270C	05/09/11	20
Nitrobenzene-d5	0.00			% Rec.	J7	8270C	05/09/11	20
2-Fluorobiphenyl	0.00			% Rec.	J7	8270C	05/09/11	20
2,4,6-Tribromophenol	0.00			% Rec.	J7	8270C	05/09/11	20
p-Terphenyl-d14	0.00			% Rec.	J7	8270C	05/09/11	20

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

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REPORT OF ANALYSIS

May 10, 2011

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-14

Project #: 1843-00

Date Received : April 29, 2011 Description : Taylor Lumber

Site ID : Sample ID RW-01

Collected By : Michael Whitson Collection Date : 04/27/11 17:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	U	0.33	1.0	ug/l		8270C	05/02/11	1
Surrogate Recovery				_				
2-Fluorophenol	38.9			% Rec.		8270C	05/02/11	1
Phenol-d5	28.0			% Rec.		8270C	05/02/11	1
Nitrobenzene-d5	74.6			% Rec.		8270C	05/02/11	1
2-Fluorobiphenyl	87.3			% Rec.		8270C	05/02/11	1
2,4,6-Tribromophenol	86.2			% Rec.		8270C	05/02/11	1
p-Terphenyl-d14	117.			% Rec.		8270C	05/02/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

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REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-15

May 10, 2011

Site ID :

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : MW-10S

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/27/11 17:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	U	0.33	1.0	uq/l		8270C	05/02/11	1
Surrogate Recovery				3.				
2-Fluorophenol	48.5			% Rec.		8270C	05/02/11	1
Phenol-d5	37.1			% Rec.		8270C	05/02/11	1
Nitrobenzene-d5	77.4			% Rec.		8270C	05/02/11	1
2-Fluorobiphenyl	88.9			% Rec.		8270C	05/02/11	1
2,4,6-Tribromophenol	73.7			% Rec.		8270C	05/02/11	1
p-Terphenyl-d14	109.			% Rec.		8270C	05/02/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

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REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

May 10, 2011

Date Received : April 29, 2011 Description : Taylor Lumber

Site ID :

Sample ID : MW-24S

Project #: 1843-00

ESC Sample # : L513596-16

Collected By : Michael Whitson Collection Date : 04/27/11 18:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	U	0.33	1.0	ug/l		8270C	05/04/11	1
Surrogate Recovery								
2-Fluorophenol	29.2			% Rec.		8270C	05/04/11	1
Phenol-d5	21.9			% Rec.		8270C	05/04/11	1
Nitrobenzene-d5	63.6			% Rec.		8270C	05/04/11	1
2-Fluorobiphenyl	77.5			% Rec.		8270C	05/04/11	1
2,4,6-Tribromophenol	100.			% Rec.		8270C	05/04/11	1
p-Terphenyl-d14	102.			% Rec.		8270C	05/04/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-17

May 10, 2011

Site ID :

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID PZ105

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/26/11 10:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	U	0.33	1.0	uq/l		8270C	05/02/11	1
Surrogate Recovery				3.				
2-Fluorophenol	29.5			% Rec.		8270C	05/02/11	1
Phenol-d5	18.8			% Rec.		8270C	05/02/11	1
Nitrobenzene-d5	69.7			% Rec.		8270C	05/02/11	1
2-Fluorobiphenyl	82.8			% Rec.		8270C	05/02/11	1
2,4,6-Tribromophenol	80.9			% Rec.		8270C	05/02/11	1
p-Terphenyl-d14	98.1			% Rec.		8270C	05/02/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

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REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

Sample ID

ESC Sample # : L513596-18

May 10, 2011

Date Received : April 29, 2011 Description : Taylor Lumber

Site ID : MW-06D

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/26/11 15:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	U	0.33	1.0	ug/l		8270C	05/04/11	1
Surrogate Recovery				3.				
2-Fluorophenol	26.3			% Rec.		8270C	05/04/11	1
Phenol-d5	21.1			% Rec.		8270C	05/04/11	1
Nitrobenzene-d5	67.6			% Rec.		8270C	05/04/11	1
2-Fluorobiphenyl	81.1			% Rec.		8270C	05/04/11	1
2,4,6-Tribromophenol	107.			% Rec.		8270C	05/04/11	1
p-Terphenyl-d14	100.			% Rec.		8270C	05/04/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

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REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-19

May 10, 2011

Date Received : April 29, 2011 Description : Taylor Lumber

Site ID : Sample ID MW-9S Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/26/11 17:50

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	U	0.33	1.0	uq/l		8270C	05/02/11	1
Surrogate Recovery				3.				
2-Fluorophenol	34.2			% Rec.		8270C	05/02/11	1
Phenol-d5	23.0			% Rec.		8270C	05/02/11	1
Nitrobenzene-d5	79.4			% Rec.		8270C	05/02/11	1
2-Fluorobiphenyl	95.2			% Rec.		8270C	05/02/11	1
2,4,6-Tribromophenol	90.9			% Rec.		8270C	05/02/11	1
p-Terphenyl-d14	118.			% Rec.		8270C	05/02/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

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REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

Sample ID

ESC Sample # : L513596-20

Project #: 1843-00

May 10, 2011

Date Received : April 29, 2011 Description : Taylor Lumber

Site ID : : MW-16S

Collected By : Michael Whitson Collection Date : 04/26/11 08:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	11.	0.33	1.0	uq/l		8270C	05/02/11	1
Surrogate Recovery				5,				
2-Fluorophenol	20.7			% Rec.		8270C	05/02/11	1
Phenol-d5	15.7			% Rec.		8270C	05/02/11	1
Nitrobenzene-d5	79.0			% Rec.		8270C	05/02/11	1
2-Fluorobiphenyl	96.6			% Rec.		8270C	05/02/11	1
2,4,6-Tribromophenol	50.6			% Rec.		8270C	05/02/11	1
p-Terphenyl-d14	113.			% Rec.		8270C	05/02/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



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Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-21

May 10, 2011

Site ID :

Date Received : April 29, 2011 Description : Taylor Lumber

: MW-16S DUP Sample ID

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/26/11 08:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Acid Extractables								
Pentachlorophenol	11.	0.33	1.0	uq/l		8270C	05/02/11	1
Surrogate Recovery				3.				
2-Fluorophenol	16.2			% Rec.		8270C	05/02/11	1
Phenol-d5	12.4			% Rec.		8270C	05/02/11	1
Nitrobenzene-d5	69.4			% Rec.		8270C	05/02/11	1
2-Fluorobiphenyl	81.4			% Rec.		8270C	05/02/11	1
2,4,6-Tribromophenol	42.2			% Rec.		8270C	05/02/11	1
p-Terphenyl-d14	97.8			% Rec.		8270C	05/02/11	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

#### Attachment A List of Analytes with QC Qualifiers

Sample	Work	Sample		Run	
Number	Group	Type	Analyte	ID	Qualifier
L513596-02	WG533611	SAMP	Pentachlorophenol	R1672209	L2
	WG533611	SAMP	2-Fluorophenol	R1672209	J2
	WG533611	SAMP	Phenol-d5	R1672209	J2
L513596-11	WG534152	SAMP	2-Fluorophenol	R1676731	J2
	WG534152	SAMP	Phenol-d5	R1676731	J2
L513596-12	WG533677	SAMP	Pentachlorophenol	R1670132	J
L513596-13	WG533677	SAMP	2-Fluorophenol	R1670132	J7
	WG533677	SAMP	Phenol-d5	R1670132	J7
	WG533677	SAMP	Nitrobenzene-d5	R1670132	J7
	WG533677	SAMP	2-Fluorobiphenyl	R1670132	J7
	WG533677	SAMP	2,4,6-Tribromophenol	R1670132	J7
	WG533677	SAMP	p-Terphenyl-d14	R1670132	J7

## Attachment B Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits
J7	Surrogate recovery limits cannot be evaluated; surrogates were diluted out
L2	(ESC) The associated surrogate compound falls below 10%. The data should be used with caution. A re-extraction was not possible due to limited sample volume.

#### Oualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

#### Definitions

- Accuracy The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision The agreement between a set of samples or between duplicate samples.

  Relates to how close together the results are and is represented by
  Relative Percent Difference.
- Surrogate Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

# Summary of Remarks For Samples Printed 05/10/11 at 14:57:38

TSR Signing Reports: 358 R5 - Desired TAT

5035 terracore kits needed for ALL soil VOCs. Log p-key under project manager's name if one is not already created with the specific project name. Contract # 8903.

```
Sample: L513596-01 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw Sample: L513596-02 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                       PCP needed at 1 ug/l.
                                                  jw
Sample: L513596-03 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                       PCP needed at 1 ug/l.
                                                 jw
Sample: L513596-04 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
MS/MSD this Sample. Reporting PCP only. PCP needed at 1 ug/l.
                                                                         jw
Sample: L513596-05 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                        PCP needed at 1 ug/l.
                                                 iw
Sample: L513596-06 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                       PCP needed at 1 ug/l.
                                                  jw
Sample: L513596-07 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw
Sample: L513596-08 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw Sample: L513596-09 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw
Sample: L513596-10 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                        PCP needed at 1 ug/l.
                                                 jw
Sample: L513596-11 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                        PCP needed at 1 ug/l.
Sample: L513596-12 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw Sample: L513596-13 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                        PCP needed at 1 ug/l.
                                                  τw
Sample: L513596-14 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                        PCP needed at 1 ug/l.
                                                 jw
Sample: L513596-15 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw
Sample: L513596-16 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
                       PCP needed at 1 ug/l. jw
Reporting PCP only. PCP needed at 1 ug/l. jw Sample: L513596-17 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw
Sample: L513596-18 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                        PCP needed at 1 ug/l.
                                                 jw
Sample: L513596-19 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                       PCP needed at 1 ug/l. jw
Sample: L513596-20 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw
Sample: L513596-21 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                       PCP needed at 1 ug/l.
                                                 jw
```



Oregon Dept. of Env. Quality - ODEQ Stephanie Bosze 3150 NW 229th St., Suite 150

Hillsboro, OR 97124

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Tax I.D. 62-0814289

Est. 1970

Quality Assurance Report Level II

L513596

May 10, 2011

		Laboratory	Blank			
Analyte	Result	Units	% Rec	Limit	Batch	Date Analyze
Pentachlorophenol	< .001	mg/l			WCE22677	05/02/11 12:
	١٠٠٠ >	_	54.14	10-148		
2,4,6-Tribromophenol		mg/l	86.28	26-122		05/02/11 12:
2-Fluorobiphenyl		mg/1				05/02/11 12:
2-Fluorophenol		mg/1	44.37	10-87		05/02/11 12:
Nitrobenzene-d5		mg/1	82.94	12-120		05/02/11 12:
Phenol-d5		mg/l	34.50	10-67		05/02/11 12:
o-Terphenyl-d14		mg/l	121.8	34-149	WG533677	05/02/11 12:
Pentachlorophenol	< .001	mg/l			WG533611	05/02/11 13:
2,4,6-Tribromophenol		mg/l	91.50	10-148	WG533611	05/02/11 13:
-Fluorobiphenyl		mg/l	86.49	26-122	WG533611	05/02/11 13:
-Fluorophenol		mg/l	34.37	10-87	WG533611	05/02/11 13:
Jitrobenzene-d5		mg/l	68.49	12-120		05/02/11 13:
Phenol-d5		mg/l	23.12	10-67	WG533611	05/02/11 13:
-Terphenyl-d14		mg/l	121.6	34-149		05/02/11 13:
Pentachlorophenol	< .001	mg/l				05/04/11 15:
2,4,6-Tribromophenol		mg/l	60.82	10-148		05/04/11 15:
?-Fluorobiphenyl		mg/l	75.34	26-122		05/04/11 15:
2-Fluorophenol		mg/l	35.44	10-87		05/04/11 15:
Jitrobenzene-d5		mg/l	70.75	12-120		05/04/11 15:
henol-d5		mg/l	25.66	10-67		05/04/11 15:
-Terphenyl-d14		mg/l	88.46	34-149	WG533676	05/04/11 15:
Pentachlorophenol	< .001	mg/l			WG533851	05/04/11 13:
2,4,6-Tribromophenol		mg/l	70.39	10-148	WG533851	05/04/11 13:
-Fluorobiphenyl		mg/l	82.57	26-122	WG533851	05/04/11 13:
?-Fluorophenol		mg/l	26.86	10-87	WG533851	05/04/11 13:
Jitrobenzene-d5		mq/l	69.67	12-120	WG533851	05/04/11 13:
Phenol-d5		mg/l	18.10	10-67	WG533851	05/04/11 13:
o-Terphenyl-d14		mg/l	96.12	34-149	WG533851	05/04/11 13:
Pentachlorophenol	< .001	mg/l			WG534152	05/05/11 14:
2,4,6-Tribromophenol	1 .001	mg/l	94.18	10-148		05/05/11 14:
2-Fluorobiphenyl		mg/l	82.82	26-122		05/05/11 14:
2-Fluorophenol		mg/l	63.21	10-87		05/05/11 14:
Witrobenzene-d5		mg/l	75.92	12-120		05/05/11 14:
Phenol-d5		mg/l	53.85	10-67		05/05/11 14:
o-Terphenyl-d14		mg/l	137.5	34-149		05/05/11 14:
			. 1.0.1			
Analyte	Units	Laboratory Con Known Val	ntrol Sample Result	% Rec	Limit	Batch
HIGIYCE	UIIIUS	KIIOWII VAI	Result	₹ KeC	DIMIL	BatCII
entachlorophenol	mg/l	.01	0.00440	44.0	20-122	WG5336
,4,6-Tribromophenol				72.65	10-148	WG5336
-Fluorobiphenyl				85.95	26-122	WG5336
-Fluorophenol				49.62	10-87	WG5336
itrobenzene-d5				87.06	12-120	WG5336
henol-d5				41.38	10-67	WG5336
-Terphenyl-d14				125.6	34-149	WG5336
2		0.1	0.00017	01 7	20 100	Maessa
Pentachlorophenol	mg/l	.01	0.00817	81.7	20-122	WG5336
2,4,6-Tribromophenol				90.22	10-148	WG5336
2-Fluorobiphenyl				90.94	26-122	WG5336

<sup>2,4,6-</sup>Tribromophenol 90.22
2-Fluorobiphenyl 90.94

\* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



Hillsboro, OR 97124

Oregon Dept. of Env. Quality - ODEQ Stephanie Bosze 3150 NW 229th St., Suite 150

Quality Assurance Report Level II 12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

WG533676

Est. 1970

May 10, 2011 L513596

Analyte	Units	Known Val	Control Sample Result	% Rec	т 4	mit	Batch
Alialyce	UIIICS	KIIOWII VAI	Result	∘ KeC	111	.IIII C	Batti
2-Fluorophenol				34.14	10	1-87	
Nitrobenzene-d5				81.79	12	-120	
Phenol-d5				22.44	10	1-67	
o-Terphenyl-d14				110.8	34	-149	
Pentachlorophenol	mg/l	.01	0.00476	47.6	20	-122	WG5336
2,4,6-Tribromophenol	2.			89.08	10	-148	WG5336
2-Fluorobiphenyl				84.95	26	-122	WG5336
2-Fluorophenol				36.45		-87	WG5336
Jitrobenzene-d5				74.84	12	-120	WG5336
Phenol-d5				26.77		1-67	WG5336
o-Terphenyl-d14				96.26	34	-149	WG5336
Pentachlorophenol	mg/l	.01	0.00765	76.5	2.0	-122	WG5338
2,4,6-Tribromophenol	5, =		2122.22	104.6		-148	WG5338
2-Fluorobiphenyl				82.38		-122	WG5338
2-Fluorophenol				35.97		-87	WG5338
Nitrobenzene-d5				68.60		-120	WG5338
Phenol-d5				25.95		1-67	WG5338
p-Terphenyl-d14				95.56		-149	WG5338
Pentachlorophenol	mg/l	.01	0.00904	90.4	2.0	-122	WG5341
2,4,6-Tribromophenol	ilig/1	.01	0.00904	98.21		1-148	WG5341
2-Fluorobiphenyl				86.78		-122	WG5341
2-Fluorophenol				58.08		1-87	WG5341
Nitrobenzene-d5				81.90		1-120	WG5341
Phenol-d5				47.07		:-120 I-67	WG5341 WG5341
p-Terphenyl-d14				115.0		-149	
p-lerphenyl-d14				115.0	34	:-149	WG5341
		•	ol Sample Duplicate			-1.1.	
Analyte	Units	Result Ref	%Rec	Limit	RPD	Limit	Batch
Pentachlorophenol	mg/l	0.00637 0.004	40 64.0	20-122	36.7	50	WG5336
2,4,6-Tribromophenol			88.51	10-148			WG5336
?-Fluorobiphenyl			86.85	26-122			WG5336
2-Fluorophenol			54.12	10-87			WG5336
Nitrobenzene-d5			96.21	12-120			WG5336
Phenol-d5			40.97	10-67			WG5336
-Terphenyl-d14			122.2	34-149			WG5336
Pentachlorophenol	mg/l	0.00865 0.008	817 86.0	20-122	5.66	50	WG5336
2,4,6-Tribromophenol	5/ =		94.41	10-148			WG5336
2-Fluorobiphenyl			91.80	26-122			WG5336
2-Fluorophenol			36.83	10-87			WG5336
Nitrobenzene-d5			86.27	12-120			WG5336
Phenol-d5			25.73	10-67			WG5336
p-Terphenyl-d14			106.0	34-149			WG5336
Pentachlorophenol	mg/l	0.00437 0.004	176 44.0	20-122	8.62	50	WG5336
2,4,6-Tribromophenol	IIIG/ I	0.0043/ 0.004	84.88	10-148	0.02	50	WG5331
			82.23	26-122			WG5336
2-Fluorobiphenyl							
2-Fluorophenol			37.79	10-87			WG533
Titrohongono dE							
			70.67	12-120			WG5336
Nitrobenzene-d5 Phenol-d5 D-Torphonyl-d14			26.93	12-120 10-67			WG533

p-Terphenyl-d14

\* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



Hillsboro, OR 97124

Oregon Dept. of Env. Quality - ODEQ Stephanie Bosze 3150 NW 229th St., Suite 150

Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

May 10, 2011

12065 Lebanon Rd.

Est. 1970

Quality Assurance Report Level II

L513596

				Sample Dupl					
Analyte	Units	Result	Ref	%Rec		Limit	RPD	Limit	Batch
Pentachlorophenol	mg/l	0.00820	0.0076	5 82.0		20-122	6.94	50	WG53385
2,4,6-Tribromophenol	5, -			106.9		10-148			WG53385
2-Fluorobiphenyl				87.10		26-122			WG53385
2-Fluorophenol				35.78		10-87			WG53385
Nitrobenzene-d5				70.97		12-120			WG53385
Phenol-d5				25.44		10-67			WG5338
p-Terphenyl-d14				95.74		34-149			WG5338
Pentachlorophenol	mg/l	0.00831	0.0090	4 83.0		20-122	8.45	50	WG53419
2,4,6-Tribromophenol				91.39		10-148			WG53415
2-Fluorobiphenyl				80.98		26-122			WG53415
2-Fluorophenol				58.25		10-87			WG5341
Nitrobenzene-d5				74.15		12-120			WG5341
Phenol-d5				51.68		10-67			WG5341
p-Terphenyl-d14				105.3		34-149			WG53415
Analyte	Units	MS Res	Matrix :		% Rec	Limit		Ref Samp	Batch
Analyte	0111125	PID RCB	KCI K	CB IV	8 RCC	Бішіс		RCI Ballip	Daten
Pentachlorophenol	mg/l	0.00840	0	.01	84.0	0-137		L513596-04	WG5336
2,4,6-Tribromophenol					78.45	10-148	3		WG53361
2-Fluorobiphenyl					91.84	26-122	2		WG5336
2-Fluorophenol					28.45	10-87			WG5336
Nitrobenzene-d5					83.09	12-120	)		WG5336
Phenol-d5					20.56	10-67			WG5336
p-Terphenyl-d14					115.7	34-149	9		WG5336
		Matr	ix Spike	Duplicate					
Analyte	Units		Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Pentachlorophenol	mg/l	0.00895	0.00840	89.5	0-137	6.42	50	L513596-04	WG5336
2,4,6-Tribromophenol				77.64	10-148				WG5336
2-Fluorobiphenyl				94.14	26-122				WG5336
2-Fluorophenol				31.73	10-87				WG5336
Nitrobenzene-d5				83.66	12-120				WG5336
Phenol-d5				22.89	10-67				WG5336
p-Terphenyl-d14				110.6	34-149				WG5336

Batch number /Run number / Sample number cross reference

WG533677: R1670132: L513596-08 09 10 12 13 14 15 WG533611: R1672209: L513596-01 02 04 05 17 19 20 21

WG533676: R1675129: L513596-06 07 WG533851: R1675133: L513596-03 16 18 WG534152: R1676731: L513596-11

 $<sup>^{\</sup>star}$   $^{\star}$  Calculations are performed prior to rounding of reported values.

<sup>\*</sup> Performance of this Analyte is outside of established criteria. For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



Oregon Dept. of Env. Quality - ODEQ Stephanie Bosze 3150 NW 229th St., Suite 150

Quality Assurance Report Level II

Hillsboro, OR 97124

May 10, 2011 L513596

12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859 Tax I.D. 62-0814289

Est. 1970

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate — is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

		Billi	ng information	n:		1	Ana	alysis/Con	tainer	Preşer	vative	)	Chain of Custody
Oregon Dept. of En	nv. Qualit												Page
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Stephanie Bosze	198 1985 198			ing.brian@	deq.state.c	r.us;	92		2				Mt. Juliet, TN 37122
ect cription: Taylor Lumber			City/State Collected	SHERIDAL	1, DR		es (P						Phone: (800) 767-5859 Phone: (615) 758-5858
ine: (503) 693-5745	Client Project #		11/2/0/2014/0/0001	roject #	0.0000000000000000000000000000000000000		l q						Fax: (615) 758-5859
(503) 373-1626	1843-00	180000-00000	ORE	GONDEQ-	TAYLOR	LU		88				1	B119
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ected by (Agnature)	Same Day .	( Lab MUST Be	.200%	Date Resul	ts Needed		11						Acctnum OREGONDEO (lab use only) Template/Prelogin T70883/ P35290
rediately ked on ice N _ Y	Two Day		50%	Email?N	o X_Yes	No. of Cntrs	SV\$270PCP						Cooler # 4-13D Shipped Via: FedEX Ground
Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	Tomis	SV	Ď.				Ì	Remarks/Contaminant Sample # (lab onl
Z-105	GRAB	GW		04/26	1015	20	X						1513596
IW-15.5	13	GW		04/26	1145	720	X						0
MW-135	-11	GW		04/26	1300	2	X						
W-125	11	GW	2)	04/26	1410	2	X						
NW-060		GW	62 62	04/26	1510	20	X	12 SEC 1					
1w-065	i in	GW		04/26	1620	2	X						
in-065 out	13	GW		H/26	1620	2	X			80			
IW-065 MS	Ω	GW		04/26	1620	2	X					88	
IW-065 MSD	ls	GW		04/26	1620	2	X						-4

		В	illing information	n;			Ana	alysis/Contai	ner/Prese	rvative	)	Chain of Custody
Oregon Dept. of En	ıv. Qualit	97										Page <u>Jof 3</u>
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Hillsboro, OR 97124							X					MITCO
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Stephanie Bosze			1000	ing.brian@	deq.state.	or.us:	\$	86				Mt. Juliet, TN 37122
Project Description: Taylor Lumber			` City/State Collected	: ::::::::::::::::::::::::::::::::::::					100			Phone: (800) 767-5859
· · · · · · · · · · · · · · · · · · ·	Client Project #		Lab Pr	SHERIOI	AN, OK		res		28 25 28			Phone: (615) 758-5858 Fax: (615) 758-5859
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MICHAEL WHITSON			P.O.#:		<u> </u>		1L-Amb-NoPres					3
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acred on rec 14 1	1888/160			FAX? _N	00.00	of	V8270PCP		è			Shipped Via: FedEX Ground
Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	Cntrs	SV				35	Remarks/Contaminant Sample # (lab or
MW-95	GRAB	GW		04/26	1750	20	X					1513596
MW-165	n	GW		04/27	D\$00	20		20			28	
MW-165 DUP	11	GW		04/27	0800	20	X			· · · · · · · · · · · · · · · · · · ·		
PZ+10Z	14	GW	2100000000	04/27	0850	2	X				27.00	
MW-1035	H	GW		04/27	0950	2	X		R & 3		** **	
MW-205	**	GW		04/27	1045	2	X			8		
MW-195	4	GW		04/27	1150	2	X		1 1			
	v	GW		04/27	1300	2	X				e	
PZ-101			1	04/27	1400	2	X		72457	1		A SEC TO SECTION SEC TO SECTION SEC TO SEC T

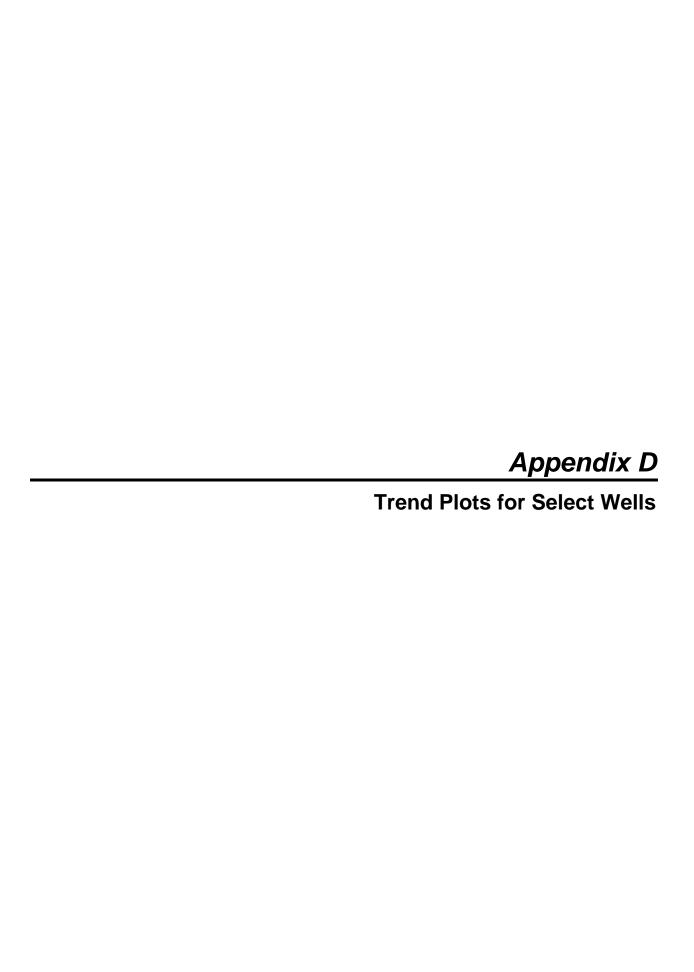
Relinquished by: (Signature MCHAEL WHITSON	Date: 04/27	Time. 2045	Received by: (Signature)	Samples returned via: ☐ UPS  FedEx ☐ Courier ☐	Condition:	(lab use only)
Relinquished by (Signature) Stephonic Bosses	Date: 4/128/11	Time /SUC	Received by: (Signature)	Temp:, Bottles Received:	COC Seal Intact:	
Refinquished by: (Signature)	Date:	Time.	Received for lab by (Signature)	Date: Time: 4/29/11 0830	pH Checked:	NCF:
		0				11.11

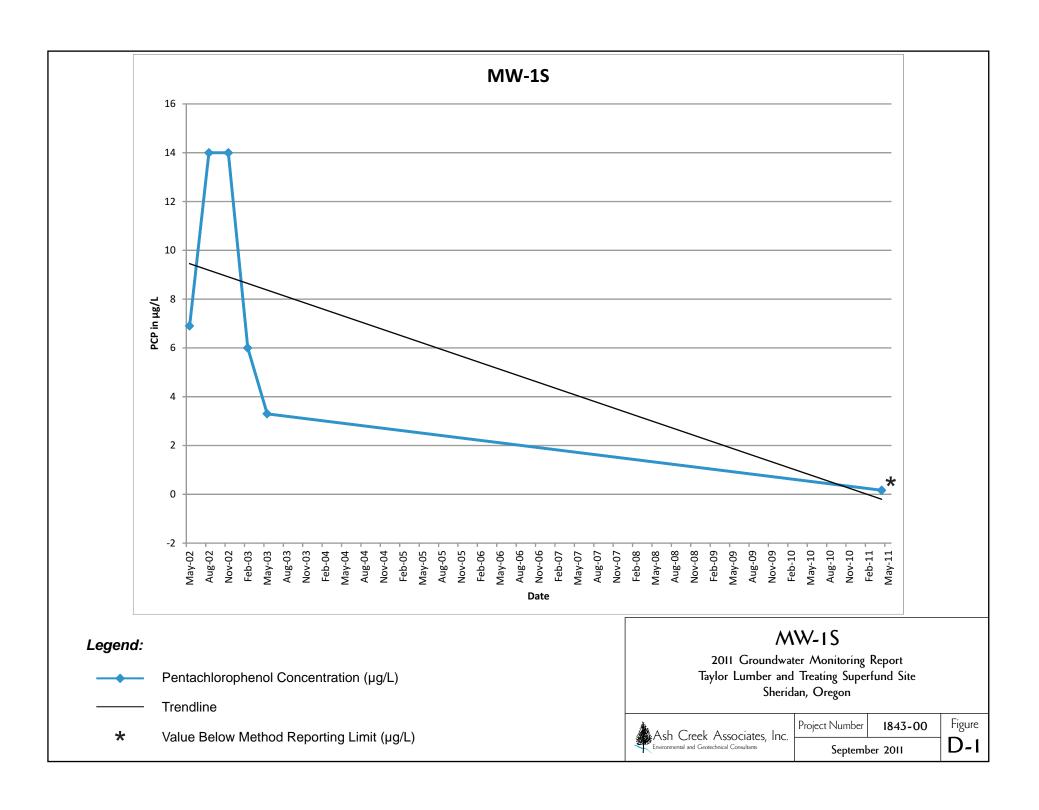
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Oregon Dept. of Env ODEO 3150 NW 229th St., Sui- Hillsboro,OR 97124	50996			dwick - ODI ixth Avenue DR 97204			* (KINO						Page Of O
Report to: Stephanie Bosze		E	mail:	ling.brian@	den state (	יאר וופי						21	12065 Lebanon Road Mt. Juliet, TN 37122
roject escription: Taylor Lumber	74.		City/Sta	te		71.431	E.				35		Phone: (800) 767-5859
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thone: (503) 693-5745 AX: (503) 373-1626	1843-00	A.	166	EGONDEQ-	TAYLOR	LU	Amb-NoPres						
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ollected by signature):  nmediately acked on Ice N _ Y _	Same Day .  Next Day  Two Day	(Lab MUST B	200% 100% 50%	Date Resul	lo X <sub>Yes</sub>	No.	270PCP 1L-	22.0					Acctnum OREGONDEO Template/Prelogin T70883/ P3529 Cooler #: 4 3 5 Shipped Via: FedEX Ground
Sample ID	Comp/Grab	Matrix*	Depth	Date	Tirne	Cntrs	SV						Remarks/Contaminant Sample # (lab
MW-115	GRAB	GW		04/27	1500	2	X	1					LS13596
MW-255	33	GW		04/27	1610	2	X						
PW-01	Ħ	GW		04/27	1725	2	X			3			
DUPLICATE AW MW-105	H	GW		04/27	1745	2	X						
BUPLICATE MW - 245	1ţ	GW		04/27	1835	2	X					33.	200 STORY 200 ST
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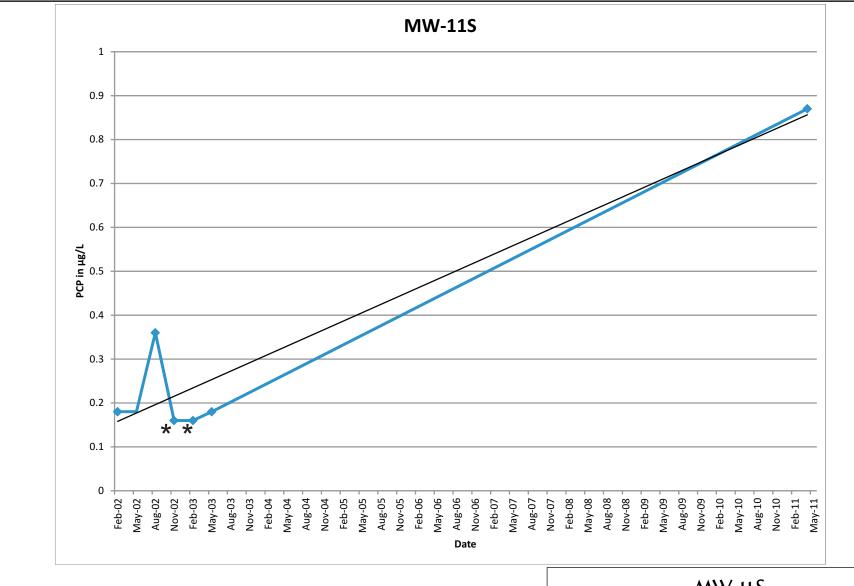


## NON-CONFORMANCE FORM

Login No.	
Date: 4/20/11	
Evaluated by: Jeremy Watk	ins
Client: OREGON DEQ	
Non-Conformance (check app	olicable items)
☐ Parameter(s) past holding time	▼ Login Clarification Needed
□ Improper temperature	☐ Chain of custody is incomplete
□ Improper container type	☐ Chain of Custody is missing (see below)
<ul> <li>Improper preservation</li> </ul>	□ Broken container(s) (See below)
□ Container lid not intact	<b>⊘</b> ☑ Broken container: sufficient sample
	volume remains for analysis requested (See below)
If no COC: Received by	Insufficient packing material inside cooler     Improper handling by carrier (FedEx / UPS / Counter)
Comments: Received 1-11:16  Did not receive 5.  or MW-165 Dup.	reples for PZ105, MW-06P, MW-95, MW-165
Login Instructions:	TSR Initials: TW
Client informed by call / email / fax Client contact: Stephanie Bosz	
1) Clear infrared Rue to	an remains volume.
2) Client showed 5 cooler	on remaining volume.  15, and we received 4, 50, there should be
The state of the s	n malal
one more copier That	NE TECEINED,
- Missing cooler was delay	ed in Monghis. It should arrive saturday
or Monday, Lag al	i with the property







## Legend:

Pentachlorophenol Concentration (µg/L)

Trendline

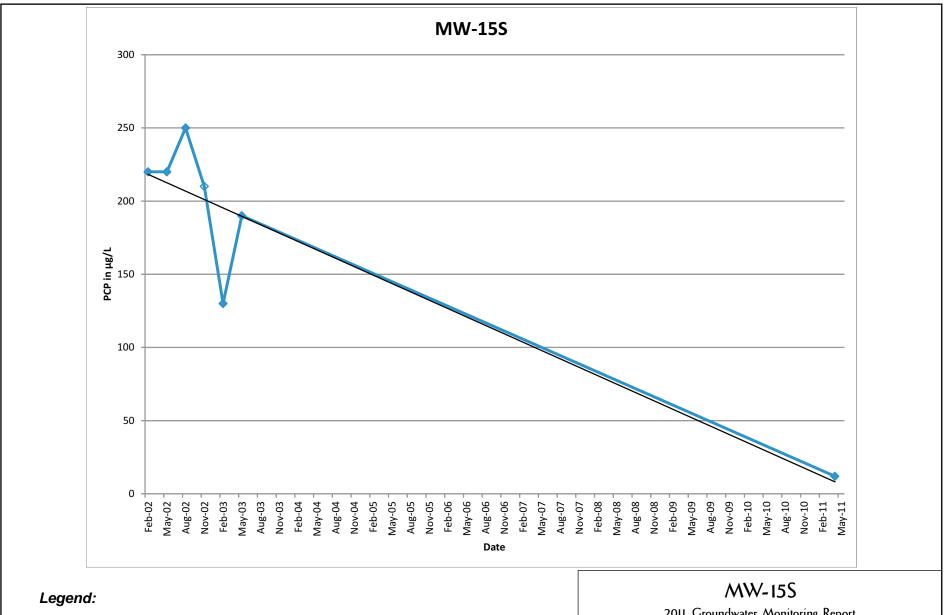
\*

Value Below Method Reporting Limit (µg/L)

## **MW-11S**

	P
Ash Creek Associates, Inc.	H
Environmental and Geotechnical Consultants	

	Project Number	1843-00	Figure
•	Septeml	per 2011	D-2



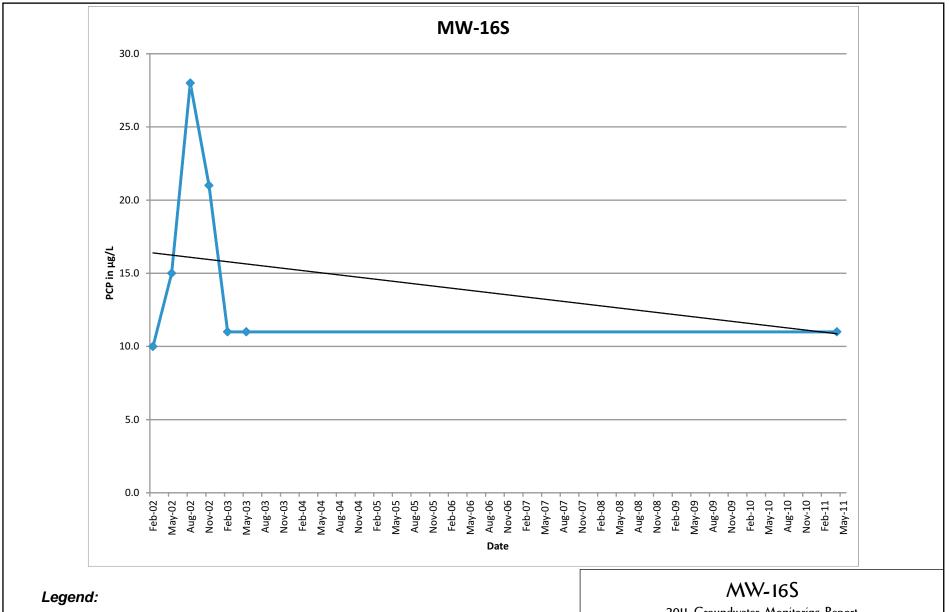
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Pentachlorophenol Concentration (µg/L)

---- Trendline



	Project Number	1843-00	Figure
•	Septemb	per 2011	D-3



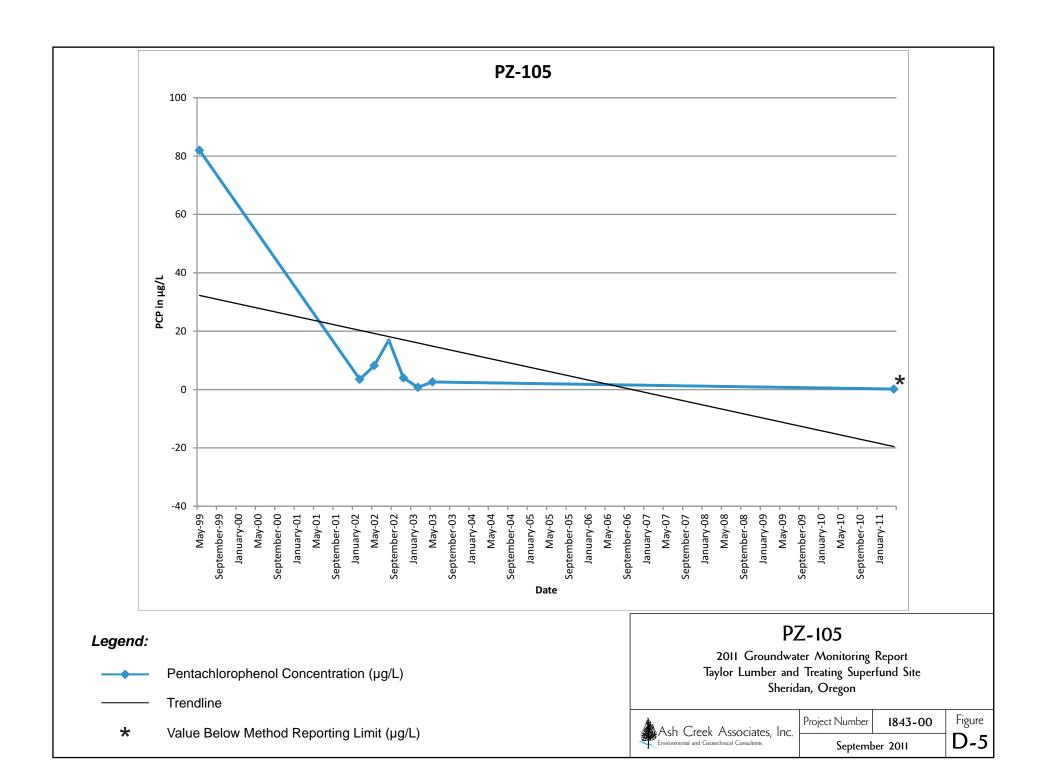
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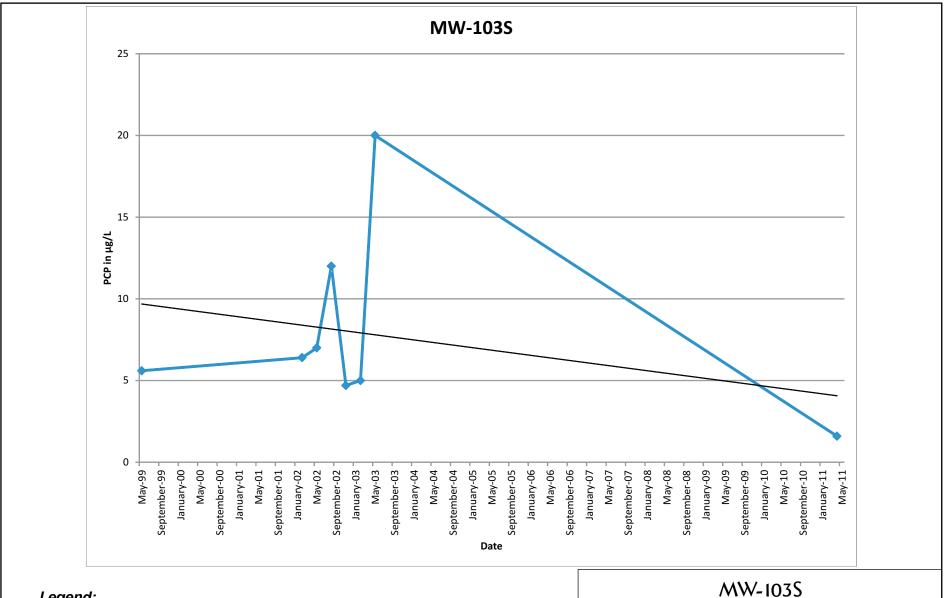
Pentachlorophenol Concentration (µg/L)

Trendline



Project Number	1843-00	Figure
Septemb	per 2011	D-4





## Legend:

Pentachlorophenol Concentration (µg/L)

Trendline



	Project Number	1843-00	Figure
•	Septemb	per 2011	D-6